The SOUTHERN ECONOMIC JOURNAL

Volume V JULY, 1938 Number 1

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A JOINT PUBLICATION OF THE SOUTHERN ECONOMIC ASSOCIATION AND THE UNIVERSITY OF NORTH CAROLINA.

Published Quarterly at Chapel Hill, N. C.

Volume V, Number 1 July, 1938

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The Southern Economic Journal is published four times a year, in January, April, July, and October, at Chapel Hill, N. C. The subscription price is $3.00 per year, $1.00 for single copies, and 75 cents each for back numbers prior to Vol. II, No. 3. A special rate of $2.00 per year is granted to members of The Southern Economic Association.

Subscriptions and orders for back numbers, as well as communications concerning book reviews and all business matters, should be addressed to the Managing Editor, Chapel Hill, N. C.

Communications concerning manuscripts should be addressed to one of the Editors.

Entered as second-class matter May 11, 1936, at the Post Office at Chapel Hill, North Carolina, under the act of March 3, 1879, section 520, P. L. & R.

Printed by the Waverly Press, Inc., Baltimore ,U. S. A

VOLUME V NUMBER 1

The SOUTHERN ECONOMIC JOURNAL

July, 1938

REGIONAL TRANSPORTATION COORDINATION

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One of the means whereby it was hoped to improve the economic condition of our railways was to eliminate waste and unnecessary expenditures from their operations by unifying or coordinating duplicate services and facilities, particularly in the operation of terminals. Accordingly, the Emergency Railroad Transportation Act of 1933 provided for three regional coordinating committees, each composed of seven railway executives. Regional headquarters were established respectively at Chicago, New York, and Atlanta. The functions of the committees were to survey the opportunities for coordinating services and facilities and, on the basis of their findings, to prepare plans for coordination and promote actual tests.

The Federal Coordinator of Transportation maintained contact with the regional committees through a regional director of coordination located at Chicago and an assistant director at each regional office. The Federal Coordinator submitted his recommendations to the regional committees, and if they failed to act he was empowered to issue orders which, however, might be appealed to the Interstate Commerce Commission and the courts. The majority of the surveys were instituted at the direction of the regional coordinating committees, while the basic work of the studies was done at each point by a local committee composed of officers of the interested lines. The regional committee participated directly in the studies in many of the larger cities and tried to check the results at other points. It is thus evident that the

surveys were made through the efforts of men who were experienced in the fields covered by them.

I

About 5000 different projects were studied, but only a small proportion of these was investigated thoroughly. A wide range of activities was included but for the most part the surveys dealt with terminal operations, this being the intent of Congress as expressed in the legislation. Other subjects were the joint use of tracks, the coordination of both freight and passenger service and of shops and repair plants, and the unification of uptown ticket offices. In one selected list of 54 pending projects, 31 provided for the unification of terminal operations, 7 for the coordination of lines, 4 for the coordination of passenger train service, 3 for the coordination of freight train service, and 2 for the coordination of ferries. The remaining ones were scattered among several types of activity.

Terminal operations were the major subject of attention for two reasons. First, terminal charges account, on the average, for 40 per cent of total railway costs, and in some cases are as high as 53 per cent or more.[1] Secondly, terminal operations consume so much time in the movement of traffic. Railway officials have recognized for years that the terminal problem was one of the most urgent with which they had to deal. Some of them have expressed the opinion that under average conditions of traffic the railways have not operated under decreasing costs during the past quarter of a century. The limiting factor has been the slow movement and congestion in terminals. More traffic could be moved over the lines but the terminals have reached their capacity.

The time consumed in moving traffic through terminals is a leading reason for the inroads of the truck into the shipment of merchandise. Between New York and Philadelphia, citing an example, trucks give overnight service. Not long ago, traffic moving by rail between the two cities remained in the originating terminal for 24 hours and in the one at the destination for 36 hours.

[1] See Report of the Federal Coordinator of Transportation on *Economy Possibilities of Regional Coordination Projects*, p. 12. Much material in this paper was obtained from this report.

In one survey patrons of trucks in the two cities gave quick delivery as their leading reason for using the truck.[2] Improved terminal operations might enable the railways to regain some lost traffic in addition to reducing their costs of operation.

In surveying the terminal problem, the regional coordinating committees were to determine the opportunities for economies which were physically possible regardless of the difficulties arising from competition of different lines which might be encountered in trying to realize them.

In coordinating terminal operations there are two problems: first, to reduce the number of units of service employed; and second, to reduce the number of movements required. To illustrate these, a few facts from the findings of the survey made of the Chicago terminals may be cited.

Each of the lines entering that city had an outlying yard for receiving and dispatching trains, making a total of 21 such yards. There were also 60 industrial yards and 72 l.c.l. stations. The regional coordinating committee suggested that the 21 outlying yards be reduced to 8, the 60 industrial yards to 18, and the 72 l.c.l. stations to 12.

When a company brings a train of freight into its outlying yard, some of the cars are destined for the downtown business district where each line has a freight depot and team tracks, the remainder for interchange with other lines to be sent beyond the city. There are 5 major and 11 minor belt lines to effect this interchange, all competing for traffic. Therefore, at least 5 streams of traffic were always moving from one line to another, and since each line made its own delivery, the locomotives ran unloaded in one direction. Even when delivering cars, only a few usually were pulled. By reducing the number of outlying yards, much of this interchange could be done within each yard, while the remainder could be sent to other lines in train loads, the locomotives also bringing a return load. It was estimated that this reduction in the number of outlying yards would reduce the yard forces by 20 per cent and the switch engine hours by 28 per cent and that the reduction in the number of industrial yards would save 22 per cent in switch engine

[2] For results of this survey see R. W. Talbot, "Why Shippers Use Trucks," *Railway Age*, 91: 485, and later issues.

hours there. It was also suggested by the coordinating committee that the number of passenger stations be reduced from 6 to 4.

Railway executives themselves estimated that the coordination of terminal activities at Chicago would save $7,500,000 annually. The Federal Coordinator's staff raised this estimate to $10,500,000, or about 9 per cent of the total cost of operating the terminals of the city in 1929.[3]

On the basis of the different terminal surveys, it was originally estimated that terminal unification would save the railways of the nation $25,000,000 annually. The Federal Coordinator's staff made a recheck and increased the estimate to about $56,000,000, and it even considered that to be conservative. Leading railway executives admitted the first estimate was too low. The low estimate was due to the individualistic motives which actuated those who made the surveys. This attitude was an obstacle in all of the investigations.

The studies concerning the coordination of other services and facilities were not as complete nor were the estimates as carefully made, as in the case of the terminals, but enough evidence was obtained to indicate that substantial savings might result.

II

Objections to coordination were bound to arise. These came from four sources: the carriers, the railway workers, the shippers, and the public.

Reversing the order, the public, at places involved, objected on the grounds that the town might lose prestige. In some cases this had probably been lost already and many of the smaller places never had much to start with. In the case of larger cities an efficient terminal organization would certainly be a favorable advertisement. In these places coordination would almost certainly result in civic advantages which are important.

The shippers objected on the ground that they would be deprived of competitive services. The shipper is accustomed to looking only at the rate he pays, not at its economic consequences. The carriers admit that these services are wasteful but they, too, hesi-

[3] See report of the Federal Coordinator, *op. cit.*, p. 4; and "Rail Economies Suggested", *Traffic World*, 56: 53.

tate to give them up on the claim that they are a competitive advantage. The long time required to enact federal legislation for controlling motor carriers or the lack of enthusiasm on the part of shippers for a limitation of federal expenditures on inland waterways testify to the interest of shippers in having plenty of competition and low rates.

Perhaps the most immediate influence in preventing some of the proposals for coordination being adopted was the opposition of railway labor. To begin with, the Federal Coordinator was restricted by the labor clause of the Emergency Act. However, he had a sympathetic attitude toward the workers and thought the labor clause sound in principle. Coordination certainly cannot be accomplished without the dismissal of many workers, and in the absence of any means of caring for those to be dismissed, the workers cannot be criticised for their attitude. Since, at the time, the nation was battling with general unemployment, there was no object in making the problem worse. The Federal Coordinator, however, did not think the labor difficulty need prevent coordination, but rather it should only defer a full realization, which might be gained rapidly in time of rising traffic.

The most fundamental objections to coordination were from railway executives. The most important obstacle was the disinclination of individual carriers to surrender strategic advantages to a competitor. Railway executives, like most other Americans, react on the theory that a railroad is a private undertaking having none but individual responsibilities. In this connection it is well to remember Coordinator Eastman's statement that the "railway industry must be an organization of the industry, not of individual carriers," and to remember that a major reason for weak lines is the lack of strategic terminal facilities whereby these lines may share to a greater extent in interchange traffic, 77 per cent of the total traffic of the nation being of this nature. If we are to have an efficiently organized system of transportation instead of a conglomeration of individual carriers, some individual rights will have to suffer.

The executives of some lines claimed they could operate their terminals more economically as they had been doing. Coordi-

nator Eastman has pointed out that this would not be so, were reciprocal switching privileges abandoned.

The carriers also opposed coordination without the assurance of a proper and compensatory adjustment for the use of their property and facilities.

An obstacle to the coordination of trackage was the requirement that a deposit had to be made with the trustee of mortgage bonds. Most carriers are unable to do this. Trustees have also hesitated to approve the abandoning of any part of a line, thinking it might weaken the whole. This is a legal obstacle and may be corrected with legislation.

The results of the regional surveys, of certain voluntary unifications made by the railways at one time or another, and of some of the practices during the period of the federal operation during the World War indicate that the coordination of these services and facilities would be both profitable and desirable. Thus far not a great deal has resulted from the findings of the regional coordinating committees. The railways made little attempt to carry out the purposes of the legislation, and the Federal Coordinator, although he had the power, hesitated to force changes upon the carriers on account of the limited life of his office. An editorial in the *Traffic World* states that the railways' "attitude toward the suggestions of the Coordinator . . . was one, not of sympathetic consideration, but of opposition and obstruction."[4] Coordinator Eastman stated that the prime reason for slow progress was either the inability of the railway executives to agree among themselves or a general disinclination on their part to act.[5]

It may be noted that the railways have an organization, the American Association of Railroads, which is trying to continue the type of work started by the regional coordinating committees. It has succeeded in bringing about the voluntary adoption of several plans. However, Commissioner Eastman is of the opinion that little progress can be expected by voluntary action. The history of the consolidation provision of the Transportation Act of 1920 supports his viewpoint.

[4] "Railroad Economies", in 58: 4.

[5] *Traffic World*, 57: 259. In speech before the Traffic and Transportation Association of Pittsburgh, Pennsylvania, February 5, 1936.

REGULATION OF TRANSPORT AGENCIES

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One of the two principal duties given Mr. Joseph B. Eastman as Federal Coordinator of Transportation under the Emergency Railroad Transportation Act of 1933 was to consider ways and means of improving transportation conditions throughout the country, including ability of the carriers to improve their properties, furnish service, and charge rates which would promote the commerce and industry of the country, and to recommend to the President and Congress legislation which would further these ends in the public interest. In formulating regulatory policy to cope with the unsatisfactory condition deriving from the oversupply of transport facilities which he found to exist as a result of an estimated 25 billion dollar capital outlay in the United States between 1920 and 1932 and incomplete utilization of our transport facilities during the depression, Mr. Eastman considered two alternatives: (1) relaxation of railroad regulation to permit the rail carriers unrestrained or greater freedom to compete with other agencies; or (2) extension of regulation, or a greater degree of regulation, to the important agencies competing with the railroads. The legislation actually recommended rejects throwing the field open to competition unlimited by governmental control of rates and supply of service and presents a program, which, if eventually enacted by Congress, will extend to a reorganized Interstate Commerce Commission authority to regulate interstate air, motor, and water carriers in a manner substantially similar to regulation of the railroads. The basic theme in all of the Coordinator's more important regulatory proposals is that economic coordination of our various transport agencies can be achieved only by a controlled competition so designed by governmental authority that each

agency will handle only that traffic for which it is especially adapted.[1]

I

Numerous questions come to mind concerning the Coordinator's regulatory proposals. In the first place, what specific meaning does Mr. Eastman give to the term "coordination" when discussing public transport policy? Second, is his theory that economic coordination of our transport facilities requires regulation of all competing agencies valid? This question is of especial interest to motor and water carriers, who fear that coordination by regulation might impede the economic development of their services. Third, if the Coordinator's recommendations are adopted, questions relating to the pattern of regulation needed to achieve economic coordination arise for consideration. What specific control devices are necessary for each agency? Should regulation of competing agencies be centered in one regulatory body? If the Interstate Commerce Commission is the logical agency to administer regulation, should it be reorganized to insure adequate consideration of the economic advantages of each agency? Fourth, since the results achieved from any regulatory legislation depend upon the interpretations of specific provisions and policies adopted, the implications of various policies that might be given effect are of great significance. What criteria should guide the regulatory agency in determining whether to allow expansion or contraction of transport facilities? Should the minimum rates established for the various competing agencies be based upon the cost of rendering the service of each agency? If so, how should cost be defined? What consideration should the regulatory body give to the promotional policies of the federal and state governments in determining its regulatory policies? While these questions merit serious analysis and extended discussion, only a few can be commented upon here.

The objective that Mr. Eastman hopes to achieve in part by his

[1] The legislative recommendations of the Coordinator have been published in the following reports: *Regulation of Transportation Agencies*, Senate Document No. 152, 73d Cong., 2d sess; *Report of the Federal Coordinator of Transportation, 1934*, House Document No. 89, 74th Cong., 1st sess.; and *Report of the Federal Coordinator of Transportation, 1935*, House Document No. 394, 74th Cong., 2d sess.

regulatory proposals is "a system of transportation for the Nation which will supply the most efficient means of transport and furnish service as cheaply as is consistent with fair treatment of labor and with earnings which will support adequate credit and the ability to expand as need develops and to take advantage of all improvements in the art."[2] While various interpretations of the term "coordination" are given in the Coordinator's reports, this objective and other statements imply that each agency must be permitted to attain its full economic development in the transportation system.[3] Apparently, the task under regulation of all competing agencies is to allocate traffic to each agency on the basis of economic factors. Since giving each agency the traffic for which it is most economically adapted would give the people the maximum benefit of our resources devoted to transportation, few would question the soundness of this ideal. Disagreement as to proper transport policy usually centers rather upon the Coordinator's conclusion that centralized control of all competing agencies is the necessary or the best means available for achieving desirable coordination of transport facilities.

Many who agree with this basic thesis running like a thread through the Coordinator's reports and other public statements base their position on the argument that railroads are at an uneconomic competitive disadvantage as compared with motor and water carriers because the latter have received governmental subsidies in recent years. Hence, this unfair advantage should be equalized by imposing regulation of rates and services upon these competitors of rail carriers. While it may be admitted that subsidies to rail competitors injure railroad security holders and labor by diverting traffic and may develop transportation facilities economically inferior to rail service at the expense of certain taxpayers, it must be recognized that data showing the amount of subsidy to highway carriers are scarce. Moreover, any subsidy enjoyed by motor or water carriers would in strict logic point to revision of our governmental policies in regard to uneconomic promotion of transportation facilities rather than to a policy of imposing upon these carriers the same brand of regulation that the

[2] House Document No. 89, *op. cit.*, p. 8.

[3] Cf. Senate Document No. 152, *op. cit.*, p. 12, 18.

public has demanded of the railroads in the past. The objection may be raised that during the inevitable delay that will take place in getting 48 state legislatures to revise their tax schedules to eliminate subsidies, many railroads may fall into bankruptcy or the railroads as a whole may pass from private to public operation. This practical point deserves consideration, but it should be recognized that even with complete regulation of rail competitors little relief could be expected from subsidized competition. It is unlikely that a regulatory commission could legally base minimum rates for motor carriers upon the costs actually incurred by the carrier plus those incurred by the general taxpayer through the subsidy policy of the state. It does not appear logical to base the case for regulation of these carriers on state subsidy.

Mr. Eastman bases his conclusion that effective coordination necessitates regulation of motor and water carriers upon analysis of both the effects of the competitive situation between the railroads and these carriers and of internal competition within the motor and water-carrier industries. The Coordinator's analysis of the competitive relationships among rigidly regulated railroads, incompletely controlled water carriers, and uncontrolled motor carriers convinced him that interagency competition is definitely cutthroat in character, and that this kind of competition is an important factor contributing to existing unsatisfactory transport conditions. Therefore, consideration of the validity of his theory must be centered upon his assumption that cutthroat competition would inevitably appear under conditions of free competition. Does this assumption square with the facts? If competition is of the character assumed, does this mean that prevention of its undesirable effects requires regulation of all competing agencies or just those possessing the economic characteristics that are responsible for the pressure to cut rates to unremunerative levels and to discriminate?

The railroads would undoubtedly engage in cutthroat competition among themselves and with competing carriers, if given freedom to quote rates at will. Although the emergence of widespread competition from motor carriers has lessened to a considerable extent the incentive for engaging in discrimination for competitive purposes, the railroads possess a high proportion of

overhead costs, have some non-competitive traffic left, and have been operating for some time below capacity. Hence, if their rates were not controlled, they would likely exact the last possible cent from their non-competitive traffic and make rates on competitive traffic low enough to stifle or impair competition. The other forms of transportation have relatively little non-competitive traffic and limited financial resources to sustain them in any such contest for traffic. Consequently, unless the out-of-pocket unit costs of rail carriers were above the average overall unit costs of motor and water carriers competing for the same traffic, the tendency under present supply conditions would be for competition to drive rates so low as to threaten the existence of these agencies. Whether such rates would benefit the railroads would depend upon how close they would fall to out-of-pocket unit costs and how much non-competitive traffic exists against which high rates could be charged to produce the revenues needed to meet their total expenses.

The motor carriers have protested vigorously against petitions of the rail carriers to file lower rates "to meet truck competition" in recent years, and both water and motor carriers have objected to the railroad proposal to relax present limitations placed upon the commission in granting fourth-section exceptions. These actions seem to indicate that rail out-of-pocket costs per unit are not above the average overall cost per unit of motor and water carriers for the same traffic in many cases, and therefore the conclusion appears justified that continued regulation of rail rates is a public necessity for economic coordination. Agreement on this requirement of public policy appears general throughout the country.

Analysis must now center upon the ability of motor and water carriers to take competitive traffic from the railroads by cutting rates below an economic level. Where rail average overall unit costs under conditions of optimum utilization of capacity are above similar costs for competing carriers and the supply of competitive service is adequate to handle the particular traffic concerned, it would seem economic to exclude the railroads from participation in this traffic by prescribing minimum rates for them equal to their average overall unit costs. Under this rule highway subsidy

would affect the results adversely, but, as pointed out above, costs defrayed by the state should be removed or equalized by revision of highway promotion policies. However, if rail average overall unit costs at optimum utilization were prescribed as minima by governmental authority, would railroad competitors obtain traffic on an uneconomic basis by cutting their rates below the rail minima on the out-of-pocket theory when their average overall unit costs at optimum utilization of capacity are higher than similar rail costs? If motor and water carriers obtained traffic by quoting rates that would return less than their average overall cost of service and less than the cost-minima prescribed for the railroads, then the traffic might flow over the agency not most economically adapted to the movement and having higher costs. A further result might be petitions by rail carriers to lower their rates "to meet truck competition and other competition," with the result that the rate level might fall to an unprofitable position. Therefore, it is theoretically quite conceivable that rate situations might arise which would injure rail carriers when regulated and allow the traffic to move by other than the lowest-cost agency unless both rail carriers and their competitors are regulated.[4]

The belief held by Mr. Eastman that cutthroat competition between the rails and their competitors cannot be prevented by regulation of the railroads alone is apparently based upon the

[4] If railroads were actually operated on a full utilization of capacity basis, they would have little incentive to quote rates below their average overall cost per unit since marginal and average costs at this ratio of utilization would be equal or approximately equal. Competition would allocate traffic in this case automatically on an economic basis. However, when railroad facilities are not fully utilized as at present, marginal costs are below average costs and unless restrained by government authority the tendency would exist for the rail carriers to quote rates below average costs to obtain traffic. A policy of prescribing minimum rates on the basis of average overall unit costs in this situation would permanently prevent the railroads from reaching full utilization and force the liquidation and scrapping of sunk capital. It may therefore be wise social policy to set rail rates under present conditions sufficiently below average overall unit costs at capacity operations to prevent expansion of motor-carrier service until existing sunk capital in the railroads wears out or reaches the junk stage. However, minimum rail rates should not be established in any case so far below average overall unit costs as to force existing economical motor-carrier service out of business. The advantage of protecting existing social arrangements must be balanced against the disadvantages of holding back technological progress in deciding this question. In any case, before railroad facilities are junked by a rate policy designed to allocate traffic to the most economical agency, any subsidy to water and highway carriers should be removed if true economy is to result.

assumption that motor and water carriers either (1) have a sufficient proportion of overhead costs to exert pressure upon them to cut rates below the overall cost of rendering service to obtain volume when unutilized capacity exists or (2) that the entrepreneurs in these industries do not know their costs well enough to price their services at cost. If rail competitors had no overhead costs at all, an obviously untrue assumption, and knew their direct costs, it would seem unlikely that they would be willing to meet rail competition when rail costs and the minimum rates prescribed by government were lower. So long as their capital lasted, motor and water carriers lacking knowledge of their direct costs might quote rates considerably below direct cost to obtain traffic. Assuming, however, at least knowledge of direct costs, motor and water carriers, if unregulated as to rates, would be free to cut under rail rates and take traffic whenever their direct costs were below the rail minima, even though the rates at which the traffic moved were insufficient to return their average overall unit costs and these costs equal or higher than similar rail costs. Mr. Eastman's view that competition would be destructive, even with rails stringently regulated, without regulation of motor and water carriers, is not fully explained in terms of economic theory. Doubtless, however, both the factors of overhead costs and ignorance of costs were given consideration in arriving at this conclusion.

The difficulty in evaluating this theory lies in the lack of basic facts. Only very sketchy data exist with regard to motor-carrier costs, but such as are available seem to indicate that a very large proportion of their costs is direct. This is attributable to lack of any necessity to invest in right-of-way, the small capacity of the moving unit, the lack of investment in expensive terminals, and the short life of equipment. A lower proportion of overhead costs also doubtless exists for water carriers, the result in part of lack of investment in right-of-way and terminal facilities. The lack of high proportions of overhead costs and non-competitive traffic in these industries points to their being less vigorous instigators of cutthroat competition in the interagency field than the railroads. Probably less justification exists for regulation of motor and water carriers to prevent cutthroat competition than

for railroad regulation. However, until extensive data relating to relative costs and the cost characteristics of competing agencies are available, only a tentative judgment can be formulated. The Coordinator's theory is probably sound. This judgment, however, does not imply failure to recognize the great difficulties with which the commission will be confronted in attempting to adjust minimum rates in such manner as to allocate traffic to the most efficient agency because of the nature of the costing problems in transportation; the fact that cost is a difficult concept to which to give specific content; nor the desirability of allowing the high-cost agency to take traffic from the low-cost agency by meeting the rates of the lower-cost agency in some particular situations.[5]

II

The Coordinator also found a public need for regulation of interstate motor carriers growing out of the effects of internal competition in this industry. He refuted the contention that a system of free competition is well adapted to the operation of highway carriers when the railroad problem is abstracted, because of the ease of entrance into the industry and prevailing small-scale operations.[6] It is apparent from his reports that he believes that competition among motor carriers themselves tends to become cutthroat.[7] While factual data regarding motor-carrier operations and costs are so scarce as to make analysis extremely difficult and precarious, the Coordinator's theory that the undesirable effects of ruinous competition would flow from lack of regulation of motor carriers when the problem of interagency competition is abstracted needs some qualification. Is the assumption that competition becomes cutthroat in the motor-carrier industry in line with the facts?

Upon analysis, the motor-carrier industry appears largely to

[5] For valuable discussions of the cost concept as applied to railroad transportation and methods of computing "out-of-pocket" and "complete" costs, see M. O. Lorenz, and B. T. Elmore, *Out-of-Pocket Cost as a Factor in Determining Freight Rates*, compiled by the Bureau of Statistics, I. C. C., Washington, D. C., October, 1933; B. T. Elmore, *Average Railroad Freight Transportation Costs*, Bureau of Statistics, I. C. C., Washington, D. C., December, 1936; and *Report on Cost Finding in Railway Freight Service for Regulatory Purposes*, issued by the Federal Coordinator of Transportation, Washington, D. C., June, 1936.

[6] House Document No. 89, *op. cit.*, p. 11, 12.

[7] Senate Document No. 152, *op. cit.*, p. 14, 22.

lack the characteristics of those industries in which competition tends sooner or later to eliminate itself and monopoly to develop. So long as only a few hundred dollars and no investment in right-of-way are required to enter the business, it is unlikely that the number of carriers will be so small as to produce monopolistic rate practices. Motor-carrier costs tend to vary closely with volume of traffic, since overhead costs of the highway are paid in a fashion that constitutes variable carrier costs. Motor carriers contribute to support of the highways largely on a *use* basis. Many of these concerns maintain no terminals whatever and truck operators in particular generally have little invested in terminal facilities. Nor is the capacity of the moving unit large relative to particular shipments as in the case of the railroads. Unutilized capacity is not so likely to develop from traffic variations and increases in traffic require almost immediately new capital outlay for further equipment. Consequently, the relatively low proportion of overhead to total costs relieves motor carriers from much of the pressure that exists upon railroads to cut rates on the out-of-pocket theory to obtain volume. The relative ease of shifting equipment from one use to another and from one route where the demand for service may be slack or declining to another offering more profitable traffic possibilities and the shorter life of the equipment lessen measurably the incentive to engage in ruinous competition. Furthermore, it is doubtful that a very real incentive to engage in rate discrimination exists, owing to the lack of non-competitive traffic to bear the burden of producing revenues needed to make low preferential rates on competitive traffic a profitable pricing practice even to the limited extent that the out-of-pocket theory could otherwise be applied in the motor-carrier industry. If internal competition is cutthroat in this industry, other conditions appear to be largely responsible. While this conclusion must be tentative until sufficient data become available to indicate beyond question the true character of costs in this industry, it should be recognized that the Coordinator failed to support with convincing data of this kind his conclusion that as a result of internal competition motor carriers "are driven by sheer financial necessity to quote rates which they know to be unremunerative."

No doubt, ignorance of costs and the prevailing small scale

operations are factors which have contributed to producing the competitive conditions to which Mr. Eastman refers in the motor-carrier industry. However, in a dynamic economic world a similar situation likely exists in many other industries with a large number of sellers. If it were not for the existence of the railroads and the ability of motor carriers which disregard complete costs to obtain traffic for which the rails are the lowest cost agency, it might seriously be questioned whether cutthroat competition arising from ignorance of cost required regulation. In considering this question the social advantages of the pressure toward efficient use of resources attributable to free competition would have to be balanced against possible social waste resulting from needless duplication of facilities and labor in providing the needed quantity of transport service.

While the issue whether it is economic to regulate motor and water carriers cannot be decided upon the basis of analysis restricted to the effects of internal competition, strict logic demands that the various elements of the problem be separated to the end that the controls adopted be based squarely upon the conditions requiring them in the public interest. This is essential not only for designing controls well adapted to the public objectives for regulation but also as a basis for the public understanding of these objectives prerequisite to intelligent criticism of regulatory policies.

In conclusion, if this analysis is correct, such economic bases for regulation of rates and service of the motor carriers as exist appear to derive largely from the competitive relationships between them and competing agencies of transport, particularly the railroads. Of the Eastman program providing for regulation of all competing transport agencies, only regulation of interstate motor carriers under the Motor Carrier Act of 1935 has yet been provided by Congress. However, the act provides the situation needed to test the validity of Mr. Eastman's theory that the most practicable way to achieve economic coordination is through regulation of the railroad competitors. While the test now in process is not so complete as the Coordinator wanted, in the next few years it should demonstrate the soundness of this significant transportation policy.

REVISION OF RAILROAD RATE STRUCTURES

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Of the reports emanating from the office of the Federal Coordinator of Transportation, three were concerned in large part with the problem of pricing—the Merchandise Traffic Report (March 22, 1934), the Freight Traffic Report (May 6, 1935), and the Railway Traffic Organization Report (July 19, 1935). In the following pages I shall attempt briefly to present the problem and its solution as outlined in these reports and finally, to evaluate these proposals.

I

The proverbial complexity of railroad rate structures constitutes a primary obstacle to the effective coordination of transportation agencies and to the allocation of traffic among rival media in accordance with their respective efficiency. Historically, it is an outgrowth of the economic peculiarities of the industry[1] and the pressure of a public policy which erroneously depended on competition for protection of the public interest.[2] Regulation did not alter the underlying principle although it modified its most vicious manifestations. Until 1920, the Interstate Commerce Commission could fix only maximum rates and since that time its control has been perforce more judicial than administrative. Thus commodity rates were not reduced to any intelligible bases but have been made and remade by a quasi-judicial process—by compromise as a by-product of litigation.

[1] Minimum operating capacity is large, the costs which vary directly with output over the short run are small, and competition (where it exists at all) involves a small number of sellers. Thus, rates were established on the value of service principle, that is, on the basis of monopolistic discrimination rather than cost.

[2] This emphasis on individual action, no matter how appropriate in an era in which joint rates played a small part in a company's total business, is outmoded today when over four-fifths of the business is jointly handled and 55 per cent of revenues is derived from a division of joint rates. The atomistic process of rate construction was modified but not corrected by the development of rate bureaus.

The heritage of this piecemeal process is a mass of point to point rates and a maze of classifications which balk analysis. Even though growth of inter-carrier traffic and development of joint rates are constantly forcing standardization of certain commodity rates, there are currently on file with the Interstate Commerce Commission some 500,000 tariffs and supplements containing about 2½ million pages. In 1934 alone, over 100,000 tariffs were filed. Through this maze of special charges and conditions only an expert can thread his way. The fundamental object of a tariff—that it should inform the prospective shipper—has been submerged in an inchoate mass of technicalities. A rate structure so poorly adapted to the needs of the shipper was peculiarly vulnerable to selective competition from rival transportation media. Improvement of our inland waterways system and in our seaboard and intercoastal merchant marine but primarily the development of motor carriers during the last decade, precipitated a crisis. Such carriers could and did take advantage of particular rates which were unrelated to cost. And, so long as the railroads were prevented by regulation from meeting the challenge by further local discrimination in charges, these media could and did absorb a large share of the "cream" of the traffic.

But this form of competition involves both a discrimination against shippers and a threat to the efficiency and stability of our transportation system as a whole. No one of these media is a complete substitute for the other. Each performs essentially a complementary function and each, within a certain range of action, is more efficient than the other. For example, although railroad terminal costs much exceed most terminal costs for motor carriers, rail line-haul costs are considerably lower than those for motor carriers. The actual limit to the range of economic superiority of the motor carrier over the railroad may eventually be 50, 75 or 100 miles or some other figure—it depends on the ability of the latter to reduce terminal charges by coordination and by the substitution of container cars for box cars. Whatever it is, a rate structure must be devised which will bring about a division of total traffic such that each transport medium will find its highest profits in the development of that kind of traffic which it is best adapted to handle. To provide such a rate structure was the task set for themselves by the proponents of revision.

II

To meet both the needs of shippers and the economics of an efficiently coordinated transportation system, two general requirements were recognized. The revised rate structure must be simple and understandable and to that end it must be constructed on some principle; and it should be based primarily on costs lest allocation of traffic among rival media prove arbitrary, discriminatory and uneconomical. The relative level of revised commodity rates, however, must approximate the existing level because the relative competitive advantage of industrial location, largely reflected in transportation costs of raw materials and finished products, cannot be disrupted overnight without widespread loss of capital investment and fundamental discrimination.

To retain similarity with existing rate structures, it was proposed that all commodity classifications be made on the basis of value or use while all rates for groups of commodities within each classification be determined on the basis of cost. Commodity characteristics affecting costs are density, risk, and special services required. But the last two have no place in classification. If the cost to the carrier is negligible, they may be better handled as overheads and, if it is considerable, a separate and distinct charge for insurance or service should be made. And density—the weight per cubic foot of space—may be neglected in classification if rates are made to rest on gross rather than net weight, that is, on the weight of car and load which is the true measure of cost to the carrier. Classification, then, may be based exclusively on value. It was suggested that all commodities be classified into a limited number of primary groups on the basis of their relative utility and use, in order to prevent discrimination between commodities of similar use. Each primary group would then be split into a limited number of rating groups in rough correspondence with the respective stage of processing of such commodities. Each rating group, and such of the primary groups as might require it, would then be rated separately to the end that the maximum volume of profitable traffic would be attracted, with no traffic repelled by excessive charges and none handled at an actual loss, and aggregate traffic, weighted by volume, would produce revenues adequate for carrier needs. All rating was to be on a cost basis.

Presumably the object of classification is to throw homogeneous commodities into given rating groups. Relative terminal and line-haul costs for each group of commodities would then provide a weighting factor for that group by which later to construct a commodity rate from average costs. This end would appear to be better served by an initial classification on the basis of the physical rather than the value characteristics of the respective commodities and therefore the kind of equipment, the nature of terminal facilities, and the type of schedule required for their proper handling. A classification exclusively on the basis of value would seem to have no particular merit as the starting point for rates to be based exclusively on costs. Apparently, the compromise was considered necessary to maintain continuity with existing rate structures.

A relative weight having been ascertained for each rating group (presumably with reference to its relative costs of handling and carriage as modified by expected volume), the actual commodity rate structure would be derived by weighting average terminal costs and average line costs by this factor. Since cost to a carrier is reflected in gross weight moved (that is, the weight of car and contents) rather than net weight, the equated ton and the equated ton mile (which includes the weight of the car in each instance) are used in computing unit terminal and line-haul costs respectively. These operating costs are then expanded by the application of a proper operating ratio sufficient to procure necessary carrier profit. This provides a weighted average cost per equated ton and may be converted to a net ton basis for tariff purposes by applying the ratio of gross load (i.e., the tare weight of the car plus the average weight of the load or loads for which a scale of rates is desired) to such net load or loads. To a constant terminal factor is then added the cumulative line-haul rate factor to secure a rate scale over any given distance.

By reason of the use of gross weight in the computation of costs and the conversion to net weights, a scale of charges may be developed which will permit the elimination of the arbitrary differential between car-load and less-than-car-load rates. Minimum C. L. weight requirements do not provide adequate incentive to the shipper to increase the ratio between quantity shipped and

tare weight of car. Under-utilization of capacity, therefore, is characteristic as car capacity is increased. The method suggested provides a true quantity differential based on relative cost to the carrier. The development of a further step—the cargo rate—permits the railroad to offer a more complete service at a scale of prices which would stimulate the economical movement of traffic.

The final suggestion for rate revision has for its object primarily a simplification of tariffs. It would substitute for the present miscellany of mileage, blanket and zone-rates, a block system for all merchandise traffic based on the longitude and latitude of origin and destination. Since degrees of longitude in the United States vary from 45 to 62 miles and degrees of latitude are constant at 69 miles, tests made indicate that a degree of latitude and longitude would be equivalent to about 60 rail miles on the average. Specific rates for each degree of latitude and longitude would make possible the elimination of all station directories; and all possible movements that might take place in the United States would fall into less than 60 rate blocks.

It is estimated in the reports that railroad charges designed on the principles discussed above would render railway operations at distances under 75 miles and highway operations beyond 150 miles unprofitable. Since rates would be based on cost, the shippers' own evaluation of service, time and convenience would dictate his preference for a given medium but rates for all transport media determined on similar principles would insure an allocation of the bulk of the traffic in accordance with the relative economy and efficiency of rival media. With the sources of tariff multiplicity corrected, tariffs covering all rates for all commodities in the United States could be simply and concisely stated within the covers of a single usable volume.

III

The contention that rail rates established on the basis of average cost would automatically divert traffic to the transportation medium economically best fitted to handle it, raises two issues which need further consideration. Is a railroad rate structure based on average costs consistent with the economics of rail trans-

port? Is a *uniform* rate structure, based on costs for railroads as a whole, a practical objective? These questions will be discussed briefly.

It is not explicitly indicated whether the average costs (terminal and line-haul), which are the basis of the proposed revision, are actual historical averages or potential averages at some potential volume of traffic. The analysis given strongly implies the former. But at any point less than full utilization of capacity, marginal costs of handling or moving any group of commodities—the differential cost of the last unit of that group—will be less than average cost, and any return in excess of that marginal cost will be economically desirable. Prices, of course, may not be fixed at the level of existing marginal costs, unless the possibility of discrimination exists or the industry is dying. Prices fixed by the level of average total costs when there is partial utilization (and average costs, therefore, are falling) would be uneconomical from the point of view of society (since they would exclude traffic which it would be economical and profitable to move at a lower rate) and unprofitable from the point of view of the railroad in the absence of commodity or geographical discrimination. In other words, so long as there is under-utilization of capacity, rates cannot be fixed economically by *actual* average costs and discrimination in rates (i.e., price variations not explainable by cost considerations) above marginal costs is justifiable, in the presence of different demand elasticities, to secure a maximum ton mileage with normal earnings under existing demand conditions. True, ignoring elements of joint cost, the extent of this discrimination should be lessened proportionately with growth in utilization.

If, on the other hand, the average cost contemplated was a potential average, it would constitute a proper basis for rates only if the prospective volume of traffic brought full utilization of existing capacity. In competitive equilibrium, of course, marginal cost must equal average cost and both must be equal to marginal revenue. Thus a uniform scale of charges (that is, a scale which differs among groups of commodities only to the extent that actual costs may differ) is a necessary condition of final competitive equilibrium. But full utilization of capacity is not probable in rail transport. Elements of common and of true joint costs are found

in a lumpiness of capacity irrespective of demand, which is beyond the control of management, such as capacity for service in either direction and capacity, provided for peak use, available for off-peak (the back-haul and the element of time). So long as true joint cost is present, rates cannot be determined exclusively by costs. So long as common costs, occasioned by under-utilization of capacity, remain, there is an economic justification for rate discrimination between customers with different demand intensities because only such discrimination will bring the highest possible utilization of plant capacity.

In the proposed method of rate construction no explicit recognition was given either to marginal costs or joint costs in rate construction. The influence of marginal costs, however, may have been implied in the vague explanation of the calculation of the weighting factor to be ascertained for each rating group and applied to average terminal and average line-haul costs in the computation of commodity rates. If this is a proper interpretation of the method, since the sum of the weights must equal the whole (in other words, the sum of these "marginal" costs must equal the average cost), the method is still subject to the criticisms directed against the use of average costs as a basis for rates under conditions of less than full utilization of capacity.

Although the writer is in sympathy with greater emphasis on cost in rate making, average costs do not appear to provide a desirable basis for rates even for a single railroad in isolation. In the construction of a commodity rate, actual average costs have mainly an historical interest. As a basis for rates, given under-utilization of capacity, they would prejudice rail transport in favor of less efficient rival media. Price making must be concerned with future costs, primarily with future marginal costs. In this sense, price is no more the result of actual cost than actual cost is a reflection of price. It is concluded, therefore, that the proposal to establish a rate structure for a given railroad on the basis of average costs is either erroneous in its conception or so elliptical in its statement that it over-simplifies the problem to the point of error.

The second question is: Are uniform rates and the use of costs a practical objective? Rates are uniform as between commodities

and as between railroads when differences in rate levels measure differences in costs. Such uniformity, as pointed out above, is required under conditions of full utilization of capacity in a state of final competitive equilibrium. Subject to qualifications there noted, it is a feasible and desirable objective; but, aside from possible uniformity of primary classification grouping, it would not result in that simplification of rail rate structures, with attendant economies in tariff publication contemplated. Since rates between competitive points must be equal unless one carrier is to withdraw virtually from the business, where costs differ rates may not be based on costs to both roads. Losses to one, with the possibility of compensation through rate discrimination, or excessive profits to the other, with provision for recapture, must characterize the combined rate structure.

Although the distinction is not made explicit, the rate uniformity contemplated in the proposed revision would seem to be a uniformity derived from the use of average costs of all railroads rather than those of each railroad in isolation. If this interpretation is correct, the objective is justifiable, if each of three conditions characterize rail traffic and rail costs both in various sections of the country and for various carriers in a given section: (a) The distribution of groups of commodities having homogeneous characteristics must be roughly the same relative both to each other and to capacity in terminals and in rolling stock. (b) The rate of change in marginal costs with expansion in volume of traffic within any particular rating category must be approximately equal for all carriers. (c) A given rate level must be expected to stimulate a given proportional change in volume of traffic within a given rate category for each carrier and in each direction.

That these conditions are likely to obtain may be doubted although, of course, the question is one of fact. Under a single ownership of all lines, geographical discrepancies would iron out. But under separate managements, a given road with costs above average might find itself unable to make a profit at the rates established while another was making excessive earnings. If the cause of the inability to cover costs was discovered in a failure of any one of the three assumptions noted above, a given carrier could

not correct the deficiency by raising the level of its rates between competitive points. The obvious solution would rest with discriminating rates, based on value of service, on non-competitive traffic. The problem here raised is of diminishing importance with increases in (a) the diversity of industrial activity and (b) the size of individual transportation systems. It indicates that the proper implementation of the proposed revision of rates may require considerable reorganization in transportation systems. It indicates, further, that a uniform rate structure based on average costs will not attain an automatic allocation of traffic among competing media in accordance with their relative economic efficiency.

The conclusion is that the proposal to establish minimum rail rates based on average costs either to individual railroads or to the system as a whole will not secure an automatic allocation of traffic among competing transport media in accordance with their relative economic efficiency.[3] As traffic approaches the capacity of rail carriers, a revision of commodity rates more nearly in conformity with costs is clearly in the public interest lest the rate structure itself contribute to economic maladjustment of industrial

[3] By reason of smaller size of units of equipment, their shorter service life, greater flexibility in adjustment of capacity to demand, and lower costs of transference of productive investment to alternative employments, the use of average costs as a criterion of minimum rates for motor carriers is less objectionable than for railroads. To establish such minimum rates for motor carriers is an essential prerequisite of an efficient transportation service so long as the motor carrier is not a complete substitute for the railroad. But, in conformity with the analysis in the text, competing railroads must be permitted to quote identical rates for equivalent quantities so long as they can show that such rates more than cover their long-run differential (not average) costs. Otherwise, motor carrier competition would prove both discriminatory and prejudicial even though the motor carrier gave a complete substitute for rail service for a particular commodity in a given area. This follows because (1) rail costs are not reduced in proportion either to the traffic or the income lost; (2) the railroad cannot withdraw from the area because the motor carrier does not and cannot give a complete transportation service for all commodities; (3) it cannot junk or withdraw even facilities required to handle that particular product because the motor carrier does not and is not required to provide service in all areas for that commodity and the railroad must handle inter-area traffic. Subsidies aside, it follows that average over-all costs of motor carriers and railroads cannot be used as a criterion of their respective economic efficiency in providing transportation service. But the average costs of the former when not exceeded by the long-run differential costs of the latter would permit competition on a reasonable economic basis within the effective area of motor carrier operations.

location and over-expansion of transport facilities. But so long as there is under-utilization of capacity and so long as there are elements of joint cost, it is neither in the public nor the carrier interest that rates be based entirely on costs even for that portion of traffic on which cost is ascertainable. Rate discrimination under public control may reduce the level of costs on all traffic. Where there is under-utilization of capacity, average cost is not a proper criterion of economic efficiency.

DYNAMIC THEORY OF SAVING AND INVESTMENT*

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I

The prevailing concepts of saving and investment give rise to much confusion of thought and make it almost impossible to develop a really respectable theory of capital. They have this effect chiefly because they do not recognize some important differences between the individual and the social point of view. A given concept may have some significance from the point of view of an individual yet be meaningless for society as a whole. It is the purpose of this paper to expose some of the fallacies in the logic of prevailing or "orthodox" conceptions of saving and investment, and to suggest some substitute definitions which would seem to be superior for the analysis of complex social phenomena.[1]

The proposed new definitions are designed to apply only in an exchange economy, where all goods are produced for sale rather than for immediate personal use. Admittedly they would have

* The writer wishes to acknowledge his indebtedness to Dr. E. A. Gaumnitz of the Minnesota Unemployment Commission and to Professor H. H. Germond of the Mathematics Department, University of Florida, for valuable aid in the preparation of this paper. In particular, Dr. Gaumnitz has pointed out that the rate of saving as given by formula (11), *infra* is not necessarily equal to the rate given by formula (12). Professor Germond has shown, on the other hand, that these quantities must be equal if certain statistical assumptions, which seem very reasonable, are made. The proof of this theorem as given in the mathematical appendix to this article was provided by Professor Germond, but the phrasing of it is that of the writer.

[1] It is a matter for regret that Mr. J. M. Keynes has recanted his earlier apostasy and returned to orthodox faith in the necessary equality of saving and investment. He was on the right path, in the belief of this writer, when he developed his thesis concerning the difference between saving and investment, as contained in his *Treatise on Money*. The reader will note there is a loose similarity between the distinctions formerly made by Mr. Keynes and those developed in this paper.

no significance in a feudal or household economy. They are adapted to a given kind of economic universe—the kind that is closely approximated by any great modern nation.

The word orthodox was written above in quotation marks not so much in derision as in recognition of the fact that its meaning is somewhat equivocal. There really is insufficient uniformity of thought as to the definition of the terms under discussion to permit a distinction to be made between the accepted and unaccepted articles of faith. The prevailing definition of each term must be found in a composite picture or a modal construction of competing concepts which have more or less in common.

The orthodox interpretation of saving stems from certain popular notions, and it will be helpful to expose the fallacy in some of these common sense ideas as a preliminary step. Such exposure will enable one to see very easily the startling differences which can develop between the individual and the social point of view.

II

Many persons of little economic education conceive the action "to save" to consist quite simply of spending less money than they receive as income. They do not own securities or so-called productive assets, and they consider their accumulated savings to be equal to the store of money they have retained out of their gross income, which last is, for them, equal to their wages and salaries plus interest at the savings bank. They reason that a dollar taken in and not spent is a dollar saved. If these people were algebraically minded they would define their instantaneous rate of saving in the following terms: Let $Z_i(t)$ be the rate of receipt of gross monetary income by the *ith* individual in dollars per interval of time at the moment t, while $X_i(t)$ is his corresponding rate of expenditure. Then if $\sigma_i(t)$ is his rate of saving it would be given by

$$\sigma_i(t) = Z_i(t) - X_i(t), \tag{1}$$

which is the difference between rate of income and rate of expenditure, or the rate at which the individual is storing money in the

bank or in a private cache.[2] Applying this definition of saving to all the members of society yields the formula

$$\sigma(t) = \Sigma\sigma_i(t) = \Sigma Z_i(t) - \Sigma X_i(t), \qquad (2)$$

where $\sigma(t)$ is the instantaneous rate of saving by society as a whole. This conception of saving seems to be quite logical regarded from the individual point of view, and, indeed, for a given individual in the stated circumstances it does have a very real meaning: the greater the rate of saving by an individual the greater the rate at which he is providing for his future wants.

On the other hand this fairly popular conception of saving explodes into thin air when applied to *all* the individuals of a closed economy, as in formula (2). This becomes apparent just as soon as one stops to consider that for society as a whole the spending rate must always be exactly equal to the rate of receipt of gross monetary income. Every dollar received by some one person at a given time or in a given period must be expended by some other person or persons, including corporations and governments among the persons. Hence the rate of saving by society as a whole as given by the popular notion under examination must always be just nothing at all,[3] viz.,

$$\sigma = \Sigma Z_i(t) - \Sigma Z_i(t) = 0. \qquad (3)$$

If the orthodox definition of "income" be substituted for gross monetary income in this formula then the rate of saving becomes equal to the difference between society's rate of "income" and its rate of total expenditure. Orthodox theory commonly conceives "income" to be wages and salaries, plus the net return to capital.

[2] When an individual spent more than his gross income he would make a negative saving, for he would deplete his store of money. Negative saving is taken care of by the algebraical sign of the formula.

[3] It may be wondered how the money supply of society ever increases if the rate of gross monetary income must always equal the rate of gross expenditure. The answer is, of course, either by gold mining operations or by way of bank loans. A gold miner does not add anything to his *monetary* income until the moment he *sells* gold to the government and at that instant the government's expenditure of money for the bullion equals the miner's receipt of money. When a person takes out a loan at the bank he *sells* his note for a deposit, thereby increasing the money supply; at the same time the bank *buys* the note; so again gross receipts equal gross expenditures.

This quantity is obviously much smaller than total expenditures, and the amended formula for saving becomes always a negative quantity, which is just as absurd as that it should be always nothing at all.

Orthodox theory does not utilize this crude popular notion of saving but it does adopt a conception which is a kind of first cousin thereto, and which is just as treacherous although more subtle.

III

The typical interpretation of the verb "to save" is rendered in orthodox economics by the phrase, "to spend less than all of one's 'income' *on consumption goods*." It will be noted that the only difference between this and the (amended) popular conception lies in the addition of the italicized words. These few words do change the logic considerably but not enough to render the definition consistent with the orthodox conception of the noun, (accumulated) "savings," whereby it is held to be equivalent to the total value of capital on hand. A dollar saved is a dollar added to capital, the argument runs; so the money value of present capital equals accumulated (net) savings, also measured in dollars. In other words, the saving rate is held to be equal to the rate of accumulation of capital, or rate of increase of capital. The orthodox conceptions can be stated quite clearly with the aid of simple algebra. Let σ represent the rate of saving by society as a whole, measured in monetary units, while I stands for the rate of receipt of "income," N is the rate of expenditure for consumption goods, and M is the rate of increase of capital. The orthodox theory states that these two simultaneous relations obtain:

$$\sigma = I - N \tag{4}$$

$$\sigma = M. \tag{5}$$

As stated above, I is equal to wages and salaries plus net income to capital. But for society as a whole the rate of net income to capital must be equal to the rate of increase of capital, at any given moment, as indeed it must also for an individual. It is a first principle of accounting that the net income shown on the profit and loss statement must equal the gain in capital value shown on the balance sheet. Hence the rate of receipt of "income" of all

the people is equal to their rate of receipt of wages and salaries plus the rate of increase of their capital. Algebraically speaking, if W is the rate of receipt of wages and salaries then it must be true that

$$I = W + M, \tag{6}$$

whence it follows by substitution in (4) that—

$$\sigma = W + M - N \tag{7}$$

Things equal to the same thing must be equal; hence *if* orthodox theory is self-consistent, formula (7) must equal formula (5), viz.,

$$W + M - N = M; \tag{8}$$

$$W = N \tag{9}$$

Self-consistency in orthodox theory therefore requires that the wages and salaries of all people taken together must equal their expenditures for consumption goods. The orthodox theorist must therefore as a logical necessity do one or more of three things: he must (a) shoulder the burden of proving that formula (9) is a true statement or (b) abandon his definition of saving or (c) renounce his contention that saving equals the increase of capital as stated by formula (5).

Choice of the first course would seem to present insuperable difficulties as a matter of deductive logic. It would seem impossible to demonstrate from any a priori considerations that the total rate of expenditures for consumption goods by all the people (including capitalists as well as workers) must equal the wages and salaries paid the workers. Even if it could be shown that the two magnitudes tend to be equal as a matter of statistical record this result would depend upon a more or less arbitrary delimitation of the category of "consumption goods."

The best line of theoretical reorientation would seem to lie in a combination of the alternatives (b) and (c) just mentioned. It is not necessary or even necessarily desirable that saving be so defined that it will equal the increase of capital, and this contention may be rejected as well as the orthodox definition contained in formula (4). Once the dubious contention of formula (5) is abandoned

there does not seem to be any particular advantage in retaining the definition given by formula (4). In setting up new concepts the best procedure would seem to be to require (a) that the *act* of saving be given a definition which is *loosely* similar to popular usage, but which has a formula that is significant for society as a whole, (b) that the noun, "savings" designate the value of accumulated saving over a period of time, and (c) that the relationship existing between saving and other economic variables be determined by inductive investigation where it is not apparent from the logic of the definitions. The inductively established relationships should be labeled frankly as such, and be treated as working hypotheses rather than inexorable principles.

IV

In conformity with this line of procedure the act of saving might very well be defined as *a reduction in the rate of turnover of goods*, or what is about the same thing, an increase in their period of turnover.[4] By this definition an individual saves when he performs an act which decreases the turnover rate of certain goods, and the money value of his rate of saving is measured by the product of the decrease in rate of turnover multiplied by the money value of the goods affected. A simple illustration should make the meaning of this definition clear. Suppose an individual has a capital worth $1,000,000, in the form of merchandise having a rate of turnover of thrice per year at the beginning of a certain year. Suppose during the year the owner puts the money received from the sale of his merchandise into a more slowly moving type of material, so that by the end of the year the rate of turnover of his capital has been reduced to once per year. Then the yearly rate of saving of the merchant for the given year would be $2,000,000 per year.

[4] The period of turnover as here conceived is not the Austrian "period of production", but rather what some writers have termed the "period of investment", i.e., it is the average length of time which goods remain in the hands of their owners. The rate of turnover is the reciprocal of this period. *Cf.* footnote (6) *infra*. Where the period as here conceived is constant with respect to time it is, for a given type of good, equal to the interval between the date of purchase of a unit of that good by a given individual and the date of the actual or constructive sale of that unit by the given individual to another individual. A constructive sale occurs when an asset is worn out or used up in the production of other goods. Fixed assets have constructive periods of turnover which vary with intensity of utilization, etc.

The rate of turnover was reduced in a year from thrice per year to once per year, or twice per year. This multiplied by $1,000,000 gives a yearly saving of $2,000,000 per year. The algebraical statement of this concept is equally simple. Let σ_i be the saving rate of a given individual, while Y_i is the market value[5] of his capital. Let R_i be the rate of turnover of his capital and let R_i' represent the rate of change of R_i. Then the individual's rate of saving is given by the formula

$$\sigma_i = -R_i' Y_i \tag{10}$$

When R_i' is positive there is negative saving because the rate of turnover of goods is increasing. Hence the rate of positive saving is given by placing a negative sign in front of R_i' and multiplying by Y_i. In the example just given R_i' was -2. Placing a minus in front of this minus and multiplying the 2 by $1,000,000 gave a positive yearly rate of saving of plus $2,000,000 per year.

The rate of saving for society as a whole is of course the sum of the rates for all people, i.e.,

$$\sigma = -\Sigma R_i' Y_i \tag{11}$$

A more useful expression for σ may be developed with the aid of one or two statistical assumptions. Let Y represent the sum of the (market) values of all the goods in existence in a society, so that $Y = \Sigma Y_i$. Let R represent the average rate of turnover[6] of all

[5] The reason for selecting market value rather than cost value is shown in the next footnote.

[6] The average rate of turnover R is here conceived to be a *weighted* arithmetic mean of the several rates at which goods are being turned over at the moment t. If R_i is the rate of turnover (in times per period) of the item of wealth Y_i, while Z_i is the rate of sale per period of this item of wealth (in dollars per period), then by definition, since Y_i is valued at market or sales price,

$$R_i = \frac{Z_i}{Y_i} \tag{i}$$

Let $Z = \Sigma Z_i$ = the total rate of sales of society as a whole. The average rate of turnover R is then given by the formula:

$$R = \frac{\Sigma R_i Y_i}{\Sigma Y_i} = \frac{\Sigma (Z_i/Y_i) Y_i}{\Sigma Y_i} = \frac{\Sigma Z_i}{\Sigma Y_i} = \frac{Z}{Y} \tag{ii}$$

In logic a fixed asset is sold constructively as it is charged to depreciation account, and the rate of turnover is given by the reciprocal of its length of life (neglecting salvage). In

goods, and R' the rate of change of R. Then it can be shown that the total rate of saving for society as a whole can be written as follows:[7]

$$\sigma = -R'Y \qquad (12)$$

In other words, the money value of the rate of saving for society as a whole is equal to the rate of change in the average rate of turnover of all goods with the sign reversed multiplied by the total value of all wealth. Since the average rate of turnover fluctuates up and down it should be obvious that the total rate of saving will have both positive and negative values, being positive when R is declining and negative when R is increasing.

At first glance this definition may seem rather stilted, but in its essence it is quite simple, and it really states in a precise way the idea lying covered up in the inconsistencies of both the popular and the orthodox definitions criticized above. When people *as a whole* "save" in the popular sense of placing a larger part of their cash in a savings bank they slow down the rate of turnover of the total money supply.[8] This will in turn reduce the rate of exchange of goods and register a saving by formula (12). It is a foolish criticism of this statement to exclaim, "Oh, but the money will not remain unspent in the savings bank, for it will be borrowed and spent for capital." The point is, if people *as a whole* (corporations and other artificial persons included) are in the mood to put a larger fraction of their money away in non-demand deposits, then *ipso facto* they will *not* on the whole be in the mood to borrow money and spend it.

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logic the rate of depreciation charged against a machine should be considered a constructive rate of sale of the machine and an equal number of dollars should be subtracted from the rate of sale of the finished product to obtain the rate of turnover of the finished product. Mathematically the same result is reached by summing the actual sales—ignoring constructive items—and dividing this sum by the sum of all wealth, including fixed assets, as in formula *ii*.

[7] The proof is given in the mathematical appendix.

[8] This statement assumes the rate of turnover of money is highly correlated with the rate of turnover of goods, which is not conceded by some economists. The late Professors Davenport and Gide are among the authorities who supported the writer's view that the two rates of turnover are positively correlated in high degree. On the other hand, Professor A. W. Marget insists they do not have to be correlated at all. Professor Marget explains the reason for his belief by saying "a sandwich maker can cut the bread more thickly without thickening the slices of cheese that go between." *Cf.* his articles in *Journal of Political Economy*, Vol. XL, pp. 289 ff., and *Quarterly Journal of Economics*, Vol. XLVII, pp. 1–36.

By similar reasoning it may be shown that if people save in the orthodox sense of the word they will *probably* cause a saving as defined by formula (12). As stated above, the saving rate in the orthodox sense is that part of the "income" rate not spent for consumption goods. The part of income not so spent must be disposed of in one of three ways; viz., it may be (a) spent for production goods or (b) loaned to others, i.e., spent for notes and securities, or (c) not spent at all. The effect of not spending at all is of course to cause a saving as defined in formula (12), for reasons just explained. The effect of lending to others is indeterminate, depending on what the others do with the money. Buying production goods rather than consumption goods will *probably* decrease the average rate of turnover of all goods because production goods are likely to be heavy materials such as buildings or machinery, which turn over more slowly than most consumption goods.

There is this important difference, however, between the definition of saving given by formula (12) and the orthodox definition; namely, that the proposed new formula does not depend, as does the other, upon individual prejudice in its application to concrete data. The new formula does not require that dubious distinctions be drawn between those things which are production goods and those which are not.

An even more important difference between the orthodox definition and the proposed substitute is to be found in their *time dimensions*. By the orthodox conception the rate of saving is measured in units of a *single* time dimension, for it is held to be that part of "income" not spent for consumption goods. The "income" is of course so many dollars per time interval and that part not spent for consumption will also have a single time dimension. By contrast, formula (12) measures the rate of saving in units having a *double* time dimension. The term R gives the rate of turnover in times per unit of time, say per year, while the derivative R' gives the rate of change of R in times per year per year. This multiplied by Y dollars gives $R'Y$ *dollars per year per year*. From the point of view of popular comprehension it must be admitted that this double time dimension is a handicap. On the other hand this technicality should be no stumbling block for professional economists. The advantage of the additional time dimension lies in the fact that by virtue of its presence one is able to consolidate the

theory of capital with the theory of business cycles on a rigorously logical basis and thereby to achieve a truly dynamic system of thought which will do all that static systems can do, and much more besides. Some preliminary steps in this direction are given in part VI of this paper.

According to the dynamic formula for rate of saving, accumulated savings will have a single time dimension, being expressed as so many dollars per period of time. Accumulated savings represent the net change in economic activity produced by saving during the period of time for which the accumulation is made.[9]

It should be noted that the act of saving *tends* to produce a decline in the rate of business activity, and if practiced generally will in fact produce a depression unless the effect of the saving is overcome by other factors. No doubt this is the sort of thing Mr. H. G. Moulton had in mind when he exclaimed in one of his early papers, "Universal thrift is a fallacy." Here, indeed, is a tragic illustration of the paradox of an exchange economy. The individual who allows his income to accumulate in bank is trying to build up his own wealth, but this saving on his part will *tend* to reduce the flow of money and *tend* to destroy the prosperity of others. Some further aspects of this dilemma are disclosed following the discussion of the term "investment," to which attention must now be given.

V

As with saving, so with the word, "investment." It has been mangled and obfuscated by generations of superficial thinkers. In some books "investment" is used to designate the purchase of stocks, bonds and notes, but this conception is of little value to a broad study of economic relationships because it signifies a bookkeeping transaction which invariably cancels out for society as a whole. So conceived the word indicates merely a transfer of purchasing power from one person or corporation to another person

[9] If $S(t)$ is the value of savings accumulated over the period $t - \Delta$ to t, then

$$S(t) = \int_{t-\Delta}^{t} \sigma(t)dt = \int_{t-\Delta}^{t} -Y\frac{dR}{dt}dt = \int_{t-\Delta}^{t} -YR'dt. \qquad \text{(iii)}$$

or corporation and it does not convey any precise idea as to what happens to total purchasing power or its rate of flow. Presumably when security sales are active business is good and vice-versa; but this is not inevitably true. The purchase of corporate stocks and bonds will tend to *concentrate* purchasing power, and this concentration probably affects the amount of total business transacted, but the nature of this effect is an ambiguous one in the short run at least. It is desirable to have a formula for investment which has a definite relation to fluctuations in business activity in the short run as well as in the long run.

Another undesirable conception of investment is that by which it is defined as "the expenditure of income for production goods." This concept is objectionable for at least two reasons. In the first place it requires that a very crude and brutal dichotomy be performed on the body of a nation's wealth, dividing it into one part which is productive and another part which is consumptive. The semasiological objections to such differentiation have been argued by the writer elsewhere and need not be repeated here.[10]

In the second place, it is undesirable to define investment as the purchase of production goods out of "income" because so to do would give it only a single time dimension, and make it non-homogeneous with respect to the dynamic definition of saving, which has a double time dimension. It is highly desirable that the two terms have the same dimensions in order that their values may be compared.

The most useful way to define investment is to make it mean *precisely* what people *vaguely* have in mind as a general rule when they use the term; namely, *the purchase of increments of wealth*.[11] This definition would make a distinction between the replacement of wealth on the one hand and investment on the other. Expenditures of money made for the restoration of values destroyed in the productive process would be counted as "replacements," while expenditures made for incremental or "new" wealth would be considered "investments." No distinction, however, would be

[10] *Cf. Capital and Interest*, pp. 29-30.

[11] The definition might just as well read, "the sale of increments of wealth" but in deference to competing conceptions, the emphasis on buying rather than selling is retained.

made between production goods and consumption goods. The purchase of *any* kind of new wealth would be investment. This because the purchaser of a so-called consumption good who pays the manufacturer a profit is increasing the wealth of the nation just as surely as the manufacturer of a so-called production good who pays another manufacturer a profit on raw material sold by the latter to him.

Moreover, the proposed dynamic definition of investment does not require the identification of specific *kinds* of wealth as the "new" kinds, for the "new" wealth is simply that part of the value of *every* good which is just coming into being by virtue of its sale at a profit.

The formula for investment will admit the possibility of negative values and will take care of them by virtue of its algebraical sign. This is true because any *decrement* of wealth would be recorded as a negative investment when registered by the sale of property at a loss.

It is not difficult to devise an algebraical formula for the instantaneous rate of investment of society as a whole. Let γ represent this rate while, as above, Y is the total value of all wealth valued at the market price, and R is the average rate of turnover of all wealth. Then the rate of change in total wealth, which is the rate at which new wealth is being created[12] in a progressive society, can be designated by Y'. In the language of such symbols the formula for rate of investment is given by

$$\gamma = Y'R \qquad (13)$$

The rate at which new wealth is coming into being, Y', multiplied by R, the rate at which the new (and old) wealth is changing hands per period of time, gives the rate at which people are buying new wealth, i.e., the rate at which they are *investing*.

It now becomes clear that the terms "investment" and "saving" are homogeneous in the respect that both have a *double* time dimension. If a yearly time interval is used the rate of invest-

[12] If the student objects to this statement on the ground that an increase in Y may mean only a rise in the price level, he is welcome to mentally "deflate" dollar values by an index of the price level, and read on, doing the same of course with respect to all other terms which involve money valuations.

ment is properly stated as so many dollars per year per year. For example, if new wealth is being created in a closed economy at the rate of $1,000,000,000 a year, and if that wealth is changing hands on the average twice per year then the people as a whole are investing at the rate of $2,000,000,000 *per year per year.*

VI

The rate of investment does not have to equal the rate of saving either as a result of mathematical necessity or because of economic considerations. On the contrary, saving and investment as defined in this paper can be equal only when there is no change in the rate of total business activity. This follows from the fact that the rate of change in business activity is exactly equal to the difference between saving and investment. Stated in algebraical terms this means that

$$Z' = Y'R - (-R'Y) = \gamma - \sigma, \qquad (14)$$

where Z' is the rate of change in Z, the money value of the rate of total transactions.[13] In other words, perfect stability in the value of total business transacted would require that saving and investment be equal at all times. It should also be clear from formula (14) that when saving is positive and greater than investment the value of Z' will be negative and business activity will be decelerating. It will be accelerating only when people as a whole invest positively at a greater rate than they positively save—or else invest negatively at a smaller rate than they are negatively saving.

Neither the rate of saving nor the rate of investment is equal to the rate of appreciation of wealth. Neither one is even the same kind of magnitude as the rate of appreciation of wealth, for saving and investment both have a double time dimension while the rate of appreciation of wealth has only one. But the relationship between the three terms may be given an exact formulation, viz.

$$Y' = (Z' + \sigma)1/R, \qquad (15)$$

[13] Simple differentiation of Z produces this result:

$$Z' = \frac{dZ}{dt} = \frac{d(RY)}{dt} = \frac{dY}{dt}R - \left(-\frac{dR}{dt}Y\right) = Y'R - (-R'Y). \qquad (iv)$$

where Y' represents the rate of growth of wealth.[14] This means Y' is equal to the product of the reciprocal of the average rate of turnover multiplied by the sum of the rate of saving and the rate of change in total business activity.

The continuously converted rate of (economic) interest is by definition equal to the instantaneous rate of net return to wealth divided by the value of the wealth. If the net return, or rate of appreciation, and the wealth are both appraised at market value then the rate of interest, r is given by the formula,

$$r = \frac{Y'}{Y}. \tag{16}$$

If society as a whole should save without investing at all the current rate of net return to capital would be zero and the current rate of economic interest would also be zero. This follows at once from the definition of investment, which is given by the formula, $Y'R$. If this expression is zero Y must be zero unless R is zero. But no business at all would be transacted if R were zero, which is contrary to any reasonable assumption. Hence Y' would have to be zero if there were no investment. But Y' is the numerator in formula (16) and the current rate of economic interest will therefore be zero when there is no investment.

On the other hand, if people save in order to make simultaneous investments in slowly moving goods, then total wealth will be increased and there will be a positive rate of interest which will be given by the difference between the percentage rate of change in total sales and the percentage rate of change in the average rate of turnover caused by the saving. The algebraical statement of this theorem is given by this equation:[15]

$$r = \frac{Y'}{Y} = \frac{Z'}{Z} - \frac{R'}{R} \tag{17}$$

[14] Proof:

$$Y' = \frac{dY}{dt} \text{ by definition, where } t \text{ represents time.} \tag{v}$$

$$Z' = \frac{dZ}{dt} = \frac{dY}{dt}R + \frac{dR}{dt}Y = RY' - \sigma. \tag{vi}$$

$$Y' = (Z' + \sigma)1/R \tag{vii}$$

[15] Proof:

$$Z' = \frac{dY}{dt}R + \frac{dR}{dt}Y \tag{vi}$$

$$\frac{dY}{dt}\frac{1}{Y} = \frac{Z'}{RY} - \frac{R'}{R} = \frac{Z'}{Z} - \frac{R'}{R} \tag{viii}$$

When the rate of turnover of goods is constant, that is to say, when there is no saving, R' is zero and formula (17) yields the theorem that the rate of interest is equal to the percentage rate of increase of total business.[16]

If the rate of investment is exactly equal to the rate of saving then Z' will be equal to zero, for it has been shown that the rate of change in total business activity is equal to the difference between saving and investment. In that case it can be seen from formula (17) that the current rate of economic interest will be equal to the percentage change in average rate of turnover of goods with the sign reversed. More than that, the rate of interest will in such circumstance be equal to the ratio that saving bears to the total rate of business transactions, which result may be shown as follows:

$$r = -\frac{R'}{R} = -\frac{R'Y}{RY} = -\frac{R'Y}{Z} = \frac{\sigma}{Z} \tag{18}$$

This result follows also as a *special* case of the *general* principle that the rate of interest is always given by the ratio that *investment* bears to total business activity. Simple substitution in the definitive formula for r produces this result:

$$r = \frac{Y'}{Y} = \frac{Y'R}{YR} = \frac{Y'R}{Z} = \frac{\gamma}{Z} \tag{19}$$

When saving results from the purchase of slow moving goods designed to increase ultimately the flow of satisfactions, there is an immediate increase in wealth equal to the discounted value of the expected profits. This happens when labor and so-called consumption goods are converted into more valuable but more slowly moving fixed plant. On the other hand when saving results from blind fear, unaccompanied by investment there is no social gain but a loss in business transacted. Where saving is accompanied by investment the loss in flow of satisfaction presumably caused by the decline in rate of utilization of resources is canceled in whole or in part by the increase in potential satisfaction represented by the

[16] This theorem is also true if wealth be appraised at cost of acquisition less depreciation, *provided* the total sales function, Z, is a compound interest curve. See the writer's "Fundamental Principles of Profit," *The Southern Economic Journal*, Vol. III, pp. 161–74.

investment. In fact, the normal situation would seem to require that the (discounted) flow of potential satisfactions represented by the investment should *more* than cancel the loss in immediate satisfaction entailed by the saving, in order that there be an incentive (other than fear, which cannot operate perennially) for the saving. Normal equilibrium would seem to require, then, that $\gamma - \sigma > 0$.[17]

Can anything definite be said about the normal value of this excess of investment over saving? It would seem that the net gain in rate of satisfaction which it produces would have to be proportional to the rate of increase of wealth in the long run because in the long run wealth must yield a greater flow of current satisfaction if it is to have greater value. Algebraically stated this means that in normal equilibrium—

$$\frac{\gamma - \sigma}{Z} = \frac{Y'}{Y} \tag{20}$$

But $\gamma - \sigma = Z'$; hence the normal situation requires that $Y'/Y = Z'/Z$, which in turn requires R'/R to be zero, as shown by formula (17). Since R cannot be infinite R' must be zero, and the rate of saving must be zero.

Normal equilibrium therefore requires that the rate of saving of society as a whole must fluctuate around an average value of zero. To speak of saving on the part of society is to say that the economic organization is in disequilibrium. Elimination of the business cycle would require the abolition of saving by society as a whole and require always that the positive saving of any given person be canceled exactly by the negative saving of another or others.

Such is the groundwork of a dynamic theory of capital.

MATHEMATICAL APPENDIX

Proof of the theorem that

$$\Sigma R_i' Y_i = R'Y \tag{ix}$$

under certain statistical conditions.

[17] It is recognized, of course, that money values do not measure satisfactions accurately. Presumably, however, the discrepancy in measurement would affect both the saving and the investment in the same way; so the inequality stated would have to exist.

By definition

$$Z_i = R_i Y_i \tag{x}$$

Hence

$$\Sigma R_i' Y_i = \Sigma Z_i' - \Sigma Y_i' R_i \tag{xi}$$

where $Z_i' = \frac{dZ_i}{dt}$ and $Y_i' = \frac{dY_i}{dt}$, t representing time.

Hence also $\Sigma R_i' Y_i = Z' - \Sigma\left(\frac{Y_i'}{Y_i}\right) Z_i$. (xii)

Let $P_i = \frac{Y_i'}{Y_i}$, the percentage rate of interest earned by a given individual's wealth, and let $P = \frac{\Sigma P_i}{N}$, where N is the number of wealth owners in a society. Also, let $\bar{Z} = \frac{\Sigma Z_i}{N} = \frac{Z}{N}$.

Then

$$P_i = P + d_i \tag{xiii}$$

$$Z_i = \bar{Z} + e_i \tag{xiv}$$

Substituting in (xii),

$$\Sigma R_i' Y_i = Z' - \Sigma P_i Z_i \tag{xv}$$

$$= Z' - \Sigma(P + d_i)(\bar{Z} + e_i) \tag{xvi}$$

$$= Z' - NP\bar{Z} - \Sigma d_i e_i \tag{xvii}$$

It is safe to assume there is no correlation in society as a whole between P_i and Z_i. This assumption does not require that there be no variation at all in the rate of interest earned by various capitals, but rather that such variation as may exist shall be uncorrelated with the amount of business done by the millions of capitalists. With the benefit of this assumption the last term of (xvii) becomes equal to zero, and it reduces to—

$$\Sigma R_i' Y_i = Z' - NP\bar{Z} \tag{xviii}$$

$$= Z' - PZ \tag{xix}$$

But

$$Z = RY,$$

as per formula (ii) in footnote (16). Hence

$$R'Y = Z' - Y'R = Z' - \frac{Y'Z}{Y} \tag{xx}$$

However

$$\frac{Y'}{Y} = \frac{dY}{dt}\frac{1}{Y} = \frac{d\Sigma Y_i}{dt}\frac{1}{\Sigma Y_i} \tag{xxi}$$

$$= \Sigma\left(\frac{dY_i}{dt}\right)\left(\frac{1}{\Sigma Y_i}\right) = \frac{\Sigma\left(\frac{dY_i}{dt}\frac{1}{Y_i}\right)Y_i}{\Sigma Y_i} \tag{xxii}$$

$$= \frac{\Sigma P_i Y_i}{\Sigma Y_i} \tag{xxiii}$$

In other words $\frac{Y'}{Y}$ is equal to the arithmetic mean of the rates of interest earned by various capitals *weighted* by the value of the capitals. It is safe to assume there is no correlation between P_i and Y_i throughout the whole of society. Notwithstanding a few spectacular cases where a big monopoly reaps unusual profits, it is probably true that there is no tendency for the percentage rate of profit to increase with the amount of capital invested. When there is no correlation between a variable and its weight the weighted arithmetic mean is equal to the simple arithmetic mean. Hence,

$$\frac{Y'}{Y} = \frac{\Sigma P_i}{N} = P, \tag{xxiv}$$

and by substitution first in (xx), then in (xix),

$$R'Y = Z' - PZ = \Sigma R_i' Y_i. \tag{xxv}$$

THE ENGLISH SPECIE RESUMPTION OF 1821

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The English Bank Restriction Period of 1797–1821 has furnished much material for students of monetary theory, and the events surrounding the Bullion Controversy of 1810–1811 have been reviewed by many writers. There had been little treatment of the theoretical aspects of inconvertible paper currency before the writings of Walter Boyd, Henry Thornton, Lord King, John Wheatley, and David Ricardo. These men in their pamphlets written in this period recognized the danger of overissue of Bank of England notes while specie payments were restricted. They formulated schemes for measuring the depreciation of this irredeemable currency by the premium paid in paper money on gold bullion and by the unfavorableness of the foreign exchange rates. Ricardo entered the discussion in 1809, and his classic essays on the Bullion Question followed at short intervals. Ample treatment of this part of the period has appeared elsewhere so it is sufficient to mention here that Ricardo's apparently sound analysis of the situation was denied and the *Report of the Bullion Committee* embodying similar theory was unfavorably received in Parliament.[1]

After the repudiation of this report the progress of inflation in England continued. The restriction on specie payments was prolonged after the end of the war with France in 1815, but proposals for resumption were pressed in Parliament until a small controversy over the time and method of returning to a metallic standard developed. This phase of the Restriction Period history

[1] See A. Andreades, *History of the Bank of England*; J. W. Angell, *Theory of International Prices*; R. G. Hawtrey, *Currency and Credit*; James Bonar, "Ricardo on Currency," *Economic Journal*, Vol. VI, March, 1896, pp. 64–69; W. S. Jevons, *Investigations in Currency and Finance*; Edwin W. Kemmerer, *Money*; N. J. Silberling, "Financial and Monetary Policy in Great Britain during the Napoleonic Wars," *Quarterly Journal of Economics*, Vol. XXXVIII, February–May, 1924, pp. 214–233, 410–422.

has received little attention in the modern literature on money, although the same problem has faced many countries since. Some of the recent stabilization proposals bear an amazing resemblance to those presented in 1819.[2] It is the purpose of this paper to survey the monetary discussion in England immediately preceding the Resumption of 1821 and to analyze the method of stabilization which was adopted.

I

The peak of the paper inflation seems to have been reached in 1814 when the price of gold was 24 per cent above par and commodity price quotations reached the highest point ever attained during the restriction. At this time the opponents of inflation seem to have resigned themselves to these conditions, and there was little discussion of currency in Parliament. Nicholas Vansittart, party leader for the Cabinet in the House of Commons, now admitted that the currency was depreciated, although he had denounced similar doctrines in 1811.[3] The sentiment favoring resumption grew steadily following the end of the war in 1815. By the next year the accidental circumstances of good harvests and contraction of the paper circulation through country bank failures had brought such improvement in the exchanges and the price of gold that the time was ripe for resumption of specie payments. But Vansittart, former advocate of inflation and now Chancellor of the Exchequer, asked for two more years of inconvertible currency on the grounds that the business interests of the country needed accommodations. Francis Horner, chairman of the Bullion Committee and an opponent of inflation since 1810, made a futile attempt to amend the bill renewing the restriction in such a way that resumption would be mandatory in 1818. The Bank of England was buying gold at a slight premium; but, whereas the foreign exchanges were favorable, there was no danger of an external drain. However, the restriction on specie payments was

[2] A bill was introduced in Congress in 1937 for deflation by lowering the price of gold. See *Congressional Record*, Vol. LXXXI, June 24, 1937, p. 8234. This latter procedure was the outstanding feature of the resumption plan used in 1821.

[3] See T. C. Hansard, *Parliamentary Debates from the Year 1803 until the Present Time*, Vol. XXIX, 1815, p. 712.

continued and this excellent opportunity to resume without painful deflation was passed.

Under these peculiar circumstances Parliament passed a law embodying Lord Liverpool's recommendations made in 1805 for reforming the coinage. It provided that thereafter silver coins would become debased subsidiary money, and their legal tender was limited to small payments of 40 shillings or less. Gold coin was thus made the sole standard of value by a law which recognized it as the actual standard used for 100 years previously.[4] However, this law was ineffectual in establishing a metallic standard in practice because little coinage was done while the circulation was flooded with irredeemable Bank of England notes, and specie had long since disappeared. The value of these notes was not maintained by gold redemption, and the bank's directors denied any obligation to regulate note issues.[5] Instead, new loans were made to the government and new notes were created to the extent of £12,000,000. The bank made a half-hearted attempt to resume payment of small notes in gold, not recognizing the inconsistency of increasing issues, buying gold at a premium, and redemption of notes, all of which were going on at the same time. As was to be expected, these actions were followed by unfavorable exchanges; redemption was stopped, and the Restriction Act was renewed for another year in 1818.

These blunders in bank policy and monetary management brought such attacks on the government and on the bank that on February 3, 1819, committees were appointed in both houses of Parliament "to inquire into the state of the Bank of England, with reference to the expediency of the resumption of cash payments." The committees included many statesmen who had attacked the *Bullion Report* in 1811 and a few who had defended it.[6] The witnesses called to give testimony were chiefly bankers and merchants,

[4] For a more complete discussion of this change in the legal definition of the standard see W. A. Shaw, *History of Currency, 1252 to 1894*, pp. 242–244.

[5] *Reports from the Secret Committees in the House of Commons and the House of Lords on the Expediency of the Bank Resuming Cash Payments*, April and May, 1819, Evidence, p. 263.

[6] Grenfell, Huskisson, Manning, and Tierney were members of the Bullion Committee of 1810, while Lord King, Lord Greenville, and the Earl of Lauderdale had defended the *Bullion Report* in the debate. Castlereaugh, Vansittart, and Peel had attacked the *Report* of 1811. Numerous other anti-bullionists were on the committees.

nearly all of whom expressed a desire to return to specie payments. Some of the bankers, including the Bank of England directors examined, wished to have the Restriction Act extended indefinitely. They were more moderate in their demands, however, than L. Lloyd, a country banker, and T. J. Irving and T. Smith, merchants, who advocated permanent use of irredeemable paper money. Outstanding witnesses in their influence on the committees were David Ricardo, Thomas Tooke, and Robert Mushet. These men declared that resumption should start immediately in order to prevent further inflation, and Ricardo's proposal for bullion payments, first outlined in 1811, was submitted to the committees. Witnesses from the bank, who were afraid that resumption would cause a heavy drain on the bank's gold, opposed this suggestion and offered the counter-proposal that the government should repay a part of its indebtedness to that institution. Possibly this latter demand was justified since mandatory loans to the government made up a larger proportion of the bank's total assets than in 1810. The bank directors now cautiously admitted that the total money in circulation and exchange rates were related, but this sentiment was unofficial. The Court of Directors issued a formal resolution on March 25, 1819, denying that a reduction of Bank of England notes outstanding would improve the then unfavorable exchanges.[7] This was the official position of the bank on monetary policy for many years.

The leading question asked of all witnesses was how to return to specie resumption with as little depressive effect on internal trade as possible. The almost unanimous desire for a more stable monetary standard expressed by the witnesses was a striking contrast to the testimony given before the Bullion Committee in 1810. But the merchants and bankers called as witnesses resisted all plans offered for resumption through a forced reduction of the Bank of England's note issue. They seemed to think that the exchanges would rectify themselves if given sufficient time, and many witnesses were greatly concerned with the possibility of falling prices which would accompany the reduction of issues.[8] Critics of the *Bullion Report* in 1811 had denied that falling prices

[7] *Commons' Report*, 1819, Evidence, p. 263.
[8] *Commons' Report*, Evidence, pp. 124–132.

would follow a reduction in the circulation, and some even approached the extreme limit of absurdity by attributing the unfavorable exchanges and high price of gold to a rise in the value of gold, disregarding the fact that these were paper prices. Walter Bagehot has called such doctrines the classics of monetary nonsense. It is interesting to find that such fallacies received little attention in the subsequent discussion, possibly because they had been so soundly refuted by Ricardo.[9]

From the viewpoint of his influence on the committees' findings, David Ricardo was the most important witness examined. The practical plan proposed in the *Commons' Report*, whereby bullion redemption was suggested, was almost identical to the plan submitted by Ricardo as a witness; namely, that the bank would redeem all notes after February 1, 1820, in gold bullion at the rate of £4 1s. per ounce; after October 1, 1820, at the rate of £3 19s. 6d. per ounce; and after May 1, 1821, at the mint par rate of £3 17s. 10½d. per ounce, providing that no amounts less than 60 ounces be paid. The advantages of this plan in economizing in the use of gold as well as the stabilizing effect on bank notes was explained. This gradual reduction of the bank's selling price on gold was expected to prevent a sudden fall in prices. An interesting reversal of this technique with an opposite motive is found in the gradual increase in the U. S. Treasury buying price of gold in 1933.

II

Unlike the preceding parliamentary reports on currency in this period, the reports of 1819 gave little attention to statements of theory.[10] Action of the bank in buying gold while steadily increasing its issues was criticized; it was recommended that a part of the bank's advances to the government be repaid and that, thenceforth, the bank should regulate its note issues by reference to the price of gold bullion and the state of the foreign exchanges.[11] The committee apparently assumed beyond doubt that gold as a

[9] *A Reply to Mr. Bosanquet's Practical Observations on the Report of the Bullion Committee;* also, *Proposals for an Economical and Secure Currency.*

[10] Previous currency investigations had resulted in the *Report of the Committee on the Circulating Paper, Specie, and Current Coin of Ireland*, etc., House of Commons, 1804, and the *Report of the Select Committee of the House of Commons on the High Price of Gold Bullion . . .*, 1810.

[11] *Commons' Report, op. cit.*, p. 13.

legal and actual standard of value would be less subject to fluctuations in value than inconvertible paper. A sample of the caution in treating matters of theory follows. "Your Committees have forborne from entering into any reasoning upon the effect produced upon the value of our currency, by variations in the numerical amount of Notes issued by the Bank of England. So many circumstances contribute to affect that value; such, for instance, as the varying state of commercial credit and confidence—the fluctuations in the amount of country bank paper—the different degrees of rapidity with which the same amount of currency circulates at different periods,—that your Committee are of opinion, that no satisfactory conclusions can be drawn from a mere reference to the numerical amount of the issues of the Bank of England outstanding at any given time."[12]

The *Lords' Report* was almost identical to the one given in the House of Commons. It was reiterated that specie payments would limit exchange fluctuations, and the theory of management of note issue by reference to the foreign exchanges was re-explained. Enthusiasm for the bullion payment plan was expressed thus: "The Committee, attaching great importance to the restoration of the paper currency to a metallic standard, are also deeply impressed with the great advantages of such a currency, when so regulated, that they think it highly desirable that a large proportion at least of the transactions of the country should be carried on by that medium."[13] In this wise the above reports proposed a central bank policy for the Bank of England and a bullion secured paper currency for circulation, both of which were realized much later.

The above-described committee reports were favorably received in Parliament, and legislation embodying their recommendations was speedily passed in the form of the Resumption Act of 1819, sometimes called Peel's Act of 1819.[14] David Ricardo, who had just become a member of the House of Commons, made a brilliant

[12] *Ibid.*, p. 20.

[13] *Lords' Report*, p. 15.

[14] *Statutes at Large*, 59 Geo. 3, C. 49. In addition to the bullion payments at a gradually changing price of gold described above, this law provided for payment of the government's debt to the bank of £10,000,000 and repealed laws against melting and exporting of coin which had been passed during the restriction.

speech in defense of the bill which was heard with much applause; and immediately afterwards, the opposition withdrawing its amendments, the plan was adopted by unanimous vote.[15] This scheme for paying bank notes in gold bullion was simply a plan for gradual deflation by periodically lowering the bank price until 1821, after which gold would be paid for notes at the old mint rate of £3 17s. 10½d. per ounce. Unfortunately, this law provided that after May 31, 1823, the bank should pay its notes in gold coin on demand, and thus Ricardo's proposal for a permanent gold bullion currency was not realized. The latter plan was widely praised and no serious objections were raised concerning it, so it is difficult to explain this failure. Perhaps here is another instance of the well known tardiness of the English in the nineteenth century to change their monetary customs. Not until 1925 was a full bullion redemption plan introduced in the English currency system.[16] And not until 1844 were definite legislative restrictions imposed upon the Bank of England regarding its note issue practices.

III

The absence of reliable statistics on prices and production makes it difficult to determine the effects of the method of resumption described above. The price index number prepared recently by Silberling, which stood at 136 in 1819, fell to 117 in 1821 and by 1824 had fallen to 106, only 6 per cent above the level of 1790.[17] Assuming that these figures measure roughly the course of the deflation, this seems to be a rather severe and sudden rise in the value of the pound sterling. Ricardo had believed that by raising the value of money 4 per cent specie payments could be safely resumed. He attributed the fall in prices to the perverse action of the bank in suddenly contracting its issues and to non-monetary causes. Other contemporary writers and speakers blamed the

[15] Hansard, *op. cit.*, Vol. XL, p. 800. Ricardo severely attacked the bank for its inconsistent attitude and lack of sound policy. Yet he advocated no other legal regulation of the Bank of England except the obligation to furnish gold bullion to note holders at the legal price.

[16] The Gold Standard Act of 1925 was intended for a permanent gold bullion system until its operation was stopped by the restriction of 1931 which is still in force.

[17] *Op. cit.*

Resumption Act for the falling prices and demanded its repeal.[18] The landed interests asked for a revision of the law permitting sufficient issue of currency to raise prices to the level of 1818–19 but with little effect, aside from the lengthy debate developed in Parliament.[19]

The bank, which had accumulated gold rapidly in 1820, asked for and received permission to pay its notes in coin after May, 1821, three years earlier than the Resumption Act provided, thus defeating the intention of Ricardo's plan for a gradual reduction in the price of gold at the bank. The bank officials explained their precipitate action by reference to difficulty with forgery of bank notes, an explanation which was not strengthened by Ricardo's comment that 1821 was a very late date to discover such trouble after 24 years of experience with paper currency.[20] A contemporary report of the Society of Arts printed in 1819 suggested a design for better engraving of notes which would have surmounted this difficulty.[21] The forgery problem was later solved by such procedure.

It is interesting to note that the modern technique of devaluation received little attention in 1819. Ricardo mentioned this as an alternative to his plan with the following argument against it: "It was thought expedient that an end should be put to a state of things which allowed a company of merchants to regulate the value of money as they might think proper; and the only point which could then come under consideration was whether the standard should be fixed at £4 2s., which was the price of gold, not only at the time Parliament was legislating, but its price for nearly the whole of the four preceding years; or the ancient standard of £3 17s. 10½d. should be restored. Between these two prices Parliament was constrained to determine, and, I think, in choosing to go back to the ancient standard, it pursued a wise course. . . .

[18] Ricardo held that a part of the fall in prices was due to the increase in the volume of trade resulting from good harvests of 1820 and 1821. See his essay "On Protection to Agriculture," in *Ricardo's Economic Essays*, edited by E. C. K. Gonner, p. 303.

[19] See Hansard, *op. cit.*, Vol. IV, new series 1821, pp. 1317–1327; Vol. V, pp. 97–130; Vol. VII, pp. 938–1026.

[20] *On Protection to Agriculture*, Gonner edition, p. 271.

[21] *Report of the Committee of the Society of Arts together with Approved Communications and Evidence upon the Same Relative to the Mode of Preventing the Forgery of Bank Notes*, London, 1819.

If, indeed, in 1819, or immediately preceding 1819, gold had been at £5 10s. an ounce, no measure could have been more inexpedient than to make so violent a change in all subsisting engagements, as would have been made by restoring the ancient standard; but the price of gold, as I have already said, was then, and had been for four years, about £4 2s., never above, and frequently under that price; and no measure could have been so monstrous as that which some reproach the House of Commons for not having adopted, namely, of having fixed the standard at £5 10s.; that is, in other words, after the currency had regained its value within 5 per cent of gold, under the operation of a bad system, again to have degraded it to 30 per cent below the value of gold."[22] Under different circumstances, apparently, Ricardo would have advocated devaluation. His essays of this period contain many other suggestions which have been gradually adopted into monetary and banking practice.

Parliament failed to lend ear to the bitter critics of the Resumption Act. After the abortive interference of the bank through failure to follow the bullion redemption scheme, full specie redemption was begun May 31, 1821. Prices continued low, according to Thomas Tooke not as a result of the resumption, and complaints from business men and farmers gradually dwindled.[23] The controversy was temporarily closed by the speculative boom of 1824–1825 with its rising prices. The fluctuations of subsequent years were attributed to poor banking policy, and a new controversy over the Bank of England's charter gathered headway until it was abated by passage of the new charter act of 1844.

IV

An important result of Ricardo's participation in the resumption controversy after 1819 was an essay which has been called his "most important contribution to the economic organization of his country."[24] This was his *Plan for the Establishment of a National Bank*, completed before his last illness in 1823 and published after

[22] *On Protection to Agriculture*, Gonner edition, p. 271.

[23] *A History of Prices and the State of the Circulation from 1793 to 1837.*

[24] From an editorial note in *Minor Papers on the Currency Question*, by David Ricardo, edited by Jacob H. Hollander.

his death. In this treatise he emphasized the difference between banking operations and the issue of currency, claiming that these functions should be separated. This argument was later expanded so successfully by his disciples that a similar restriction was imposed on the Bank of England. More recently this reform has largely lost its effect because of the widespread expansion in bank credit through use of checks rather than notes. A new reform measure has therefore been proposed, a plan whose parentage may be easily traced to Ricardo's essay and the Bank Charter Act of 1844. By this plan banks would be required to keep 100 per cent reserves back of deposits, and currency expansion would be left in the hands of a central monetary authority which could then effectively manage the total quantity of money.[25] The latter proposal has attracted little attention outside academic circles, and its resemblance to Ricardo's program has been largely unnoticed.

Thus the Resumption of 1821 was accompanied by notable achievements in the fields of both monetary theory and monetary practice. The leaders of the discussion had a clear insight into the issues involved; they made good use of the theoretical contributions of previous writers and followed the suggestions of the most eminent living expert in this field. The advantages of paper currency because of its convenience, the superior stability of value of gold as a standard, the practical device of bullion redemption, the technique of regulation of the value of the monetary unit by changing its gold weight, and the necessity of a better policy in the regulation of bank note issues were all new propositions which now became widely accepted both in theory and in practice. The obstacles in the way of resumption inspired David Ricardo to make such refinements in his theory that it became suitable for practical use in the monetary system. The later Bank Charter Controversy developed over issues first emphasized during the bank restriction, and modern doctrinal developments have followed similar trends.

[25] See Irving Fisher, *100% Money*; Lauchlin Currie, *The Supply and Control of Money in the U. S.*; A. G. Hart, "The Chicago Plan of Banking Reform," *Review of Economic Studies*, Vol. II, No. 2, February, 1935, pp. 104–121.

THE DURHAM CENTRAL LABOR UNION

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Organized labor in Durham, North Carolina, has been greatly influenced by its city central labor union. It is the writer's purpose to summarize in this paper some historical and functional activities of that body.[1]

I

The direct cause of the organization of the Durham City Central Labor Union was the award on July 23, 1925, of a huge construction contract to the George A. Fuller Company of New York City, a firm which specifically hired only union labor. The contract was for the building of the Woman's Campus of the new Duke University. It has been reported that James B. Duke, the individual who donated the funds for the university, strongly advised the selection of the Fuller Company because he claimed that this particular construction company was best equipped to complete the enormous building program. Thus it can be said that "Buck" Duke, who is alleged to have fought labor unions, was indirectly responsible for the organization of a city central in Durham.

But the central did not immediately appear with the letting of the contract. On the contrary, its organization materialized after, and not until, the building-trades unions were solidly entrenched; and these local unions appeared because of the policy of the Fuller Company. That is to say, the Fuller engineers transported their equipment to the Duke campus and advertised for union building tradesmen; but the quantity of union labor in Durham and the surrounding territory was negligible. Hence, in

[1] The writer's interest in the central was awakened in the years 1935 to 1937, during which period he was attending its weekly meetings. This article, however, does not presume to betray any confidences of central delegates. All historical data used herein were obtained from personal interviews and union documents.

answer to the demand, Northern "tramps" of the building trades rushed into Durham. Each one carried a union card, his means of securing a job. Furthermore, after the "tramps" obtained employment, they organized local unions. The engineers, in addition, sub-contracted a number of jobs to Durham contractors, with the stipulation that union labor be employed. Therefore, these contractors also insisted on union labor.

Through this process of requiring union labor, a craft-union movement was precipitately thrust into Durham. Obviously enough, then, the first result of James Duke's patronage was to organize the building trades. One of the most prominent men in this union activity was John A. Peel,[2] a carpenter who had drifted into Durham. Peel possessed a strong union consciousness, not only for the crafts, but also for industrial workers. Consequently, after the building-trade locals were established he and a handful of carpenters discussed the advantages of organizing a Durham central union. When the sub-contractors heard of the plans, they were, of course, agreeable; for they felt that a central would facilitate obtaining union labor for the contemplated construction of the West Campus of Duke University.

But it was not until December, 1925, that Peel and a group of friends arranged a meeting for representatives of all Durham local unions. The building-trades men, it must be noted, were the initial leaders. Soon, however, they received support from the hosiery workers' local, which was then struggling through a bitter strike.

At a subsequent meeting in February, 1926, delegates of the carpenters, electrical workers, plumbers, barbers, hosiery workers, printers, and moving picture employees received their A. F. of L. charter and elected John A. Peel president of the new central labor union. The objectives of the union were not radical; were not tinged with a desire for a "new economic order;" and did not vigorously advocate industrial unionism. On the contrary, the delegates accepted the conservative, business-unionism ideals such as those early formulated by Samuel Gompers. Never once did the delegates question whether those ideals, systematized for craft

[2] At present, January 1, 1938, Peel is the first vice-president of the United Textile Workers. He is also regional director of the T.W.O.C., stationed at Roanoke, Virginia.

organizations, might be suitable for Durham. Apparently they failed to recognize that the great preponderance of Durham laborers were employed in cotton textile, hosiery, and tobacco factories.

Thus originally the central, to a great extent, was an organization for imported Northern building crafts, employed on the East Campus of Duke University. Commencing late in 1927, however, the newly organized Duke Construction Company, under the guidance of A. C. Lee, hired chiefly non-union labor for the construction of the West Campus. The Northern union "floaters," obtaining no jobs, moved on to other construction areas; and the Durham craftsmen, finding union affiliation no prerequisite for a West Campus job, dropped out of the unions.

The building of the West Campus with non-union labor, therefore, had a depressing effect upon the size of the central union's membership. Yet not until Durham was finally rid of these Northern union "floaters" did the central truly represent the local Durham movement. In the first place, the Northerners had been primarily interested in obtaining advantages for their respective crafts, not for all Durham labor. The result was that the leadership had not been overly concerned with organizing a permanent local movement. In the second place, even though the loss of the "floaters" actually meant a weakening in the numerical strength of the central, the remaining delegates were permanent residents of Durham. In addition, while the Durham leaders of the central were still craft unionists with craft principles, they were not self-centered and callous to the plight of the industrial workers. Instead, they recognized the necessity of organizing a lasting labor movement. As a matter of fact, their activity prepared many industrial workers for the arrival of the N.I.R.A. codes in 1933.

Three complicating factors appeared, however, which prevented the central from having an opportunity to overcome the handicaps of the Northern craft[3] organization.

First, the campaign year of 1928 proved to be a disruptive period. Instead of maintaining a solid front, the central permitted its

[3] This certainly is not to imply that industrial union organization would have survived the depression. Perhaps it would have relieved the strain of political disruption, but industrial unionism per se would not have been strong enough to withstand severe unemployment. After all, Durham industrial laborers were not "sold" on unionism. The few workers who had jobs feared to join a union because the threat of discharge was very real.

membership to be cut into multiple rival factions. Local politicians, presuming that the central had the power to deliver Durham's labor vote, vied with each other for the central's favor. They repeatedly flattered various individuals and promised impossible rewards if the delegates would swing the central to them. So the rival central delegates pledged the collective labor vote. There was no cooperative action; it was dog eat dog.

Second, after the election fever had subsided, the delegates, discovering that political animosities do not rapidly heal, grouped into rival cliques. Often the split took the form of a conflict between industrial and craft organizations; but whatever the alignment, each group maneuvered to elect the union officers. Since the crafts were numerically the stronger, their men were officers. The result was a disgruntled group of industrial workers and a failure to develop a feeling of *esprit de corps*.

Finally, the depression, with its consequent unemployment of Durham laborers, intensified the loss of the Northern craftsmen. The hiring of a business agent in 1930, it was true, gave the union a short lived vitality. However, neither he nor the volunteer organizers could successfully combat unemployment.[3]

Thus, throughout 1931 a general lack of interest prevailed, resulting in irregular meetings. Finally, on May 23, 1932, the union held its last session, a gathering to set up "political machinery" to electioneer in the various city precincts. It was then to remain non-existent for nearly two years.

II

The passage of the N.I.R.A. in March, 1933, made possible the organization of several industrial unions in Durham. At first these groups were primarily concerned in unionizing only their own workers, but slowly their interest turned toward the development of a united Durham union movement. Thus, from the fall of 1933 until March, 1934, the Durham local union leaders and various international organizers, anticipating the reorganization of the central union, held occasional informal meetings. The significant point of all their conferences was the resolution that no one clique, craft, industrial, or political, would dominate the

central. These men, it must be emphasized, were familiar with the causes which had split the earlier union into impotent factions. Furthermore, they agreed that the new central labor union must represent "home organized labor."

However, it was not until a year after the emergence of the N.I.R.A., on March 29, 1934, that the reorganized union held its first meeting. The president of the State Federation of Labor, R. R. Lawrence, presided at the session, consisting of representatives from the locals of the American Tobacco Company, brick-masons, plumbers, Liggett and Meyers Tobacco Company, carpenters, and barbers. These locals offered to contribute the necessary funds for reorganization; namely, the annual central union dues of $15, $10 to the A. F. of L. and $5 to the State Federation of Labor. A week later the locals of painters, machinists, electricians, printers, pressmen, stage employees, and railway clerks affiliated with the union.

Like the 1926–32 platform of the central union, the new program of objectives was not a class-war document. The principles had been formulated by the American Federation of Labor and handed to the Durham unionists. In this respect the two bodies were similar. Nevertheless, a fundamental distinction remained. Whereas in 1926 Northern craft men were the instigators of the central union, in 1934 the Southern industrial workers were the driving forces for reorganization. Section 7a had promised Durham laborers full protection in their organizing; and this artificial stimulus practically forced organization into the community. In other words, even though the workers were not "educated for unionism," they joined unions because the spirit of the Blue Eagle was in the air. The central, therefore, became a potential agency for fostering and emphasizing organizational activities.

But the central did not remain merely a potential agency. On the contrary, it came to serve as the spear-head for an organizing boom. Furthermore, since the majority of the delegates were industrial workers of the tobacco, cotton textile, and hosiery factories, they inevitably influenced the central to spread unionism where laborers had previously been discharged for union membership. It must be noted, too, that delegates from the barbers,

plumbers, and printers were extremely active in pushing industrial organization; as a matter of fact, several of these delegates served on the permanent organizing committee.

In respect to the central's organizing activities, undoubtedly its most notable functioning was in the period of the 1934 national textile strike. For example, when the strike was called on September 1, "Mr. X, of the plumbers, talked to the Central. He pleaded for all labor to stand shoulder to shoulder with the textile people and win the fight for our rights." Following this exhortation by a craftsman, the president appointed a strike committee, a group which subsequently proved to be the most efficient ever to represent the central. Its function was twofold: to maintain contact with the local strike officials and to solicit funds for the strikers. That particular evening the committee collected $19.40 from the assembled delegates and selected speakers to maintain union spirit in the picket lines.

Furthermore, the committee secured the free use of an empty store building and established its headquarters. From there they directed their drive of soliciting food and clothing from Durham citizens. When they received money donations instead of commodities, they purchased wholesale groceries. Their primary duty, in essence, was to collect food and clothing into one centralized depot from which the textile workers could distribute the commodities.

In addition, the committee obtained the city school superintendent's permission for textile workers' children to register in school without paying book rent. They supplemented the distributive work of the textile local to make certain that strikers received sufficient food. A group interviewed the Durham County Relief Supervisor over the alleged threat to deprive the strikers of relief. One committee member even volunteered to travel to Washington, D. C., to protest the refusal of milk to the strikers. Moreover, they notified the Durham newspapers that strike donations should be offered only to individuals with central labor union credentials.

Collateral with their strenuous activities, the committee also presented certain recommendations to the central. Thus, the union secretary wrote President Roosevelt, the Secretary of War, and the Governor of North Carolina and vigorously protested

against permitting the mill owners to "use Federal property and equipment in [breaking] the strike." The committee, apparently, was determined that no violence would mar the Durham dispute. Furthermore, the secretary thanked the Durham *Herald* for distributing papers to the strikers free of charge. In that way the committee determined to assure the newspaper that the entire local union group was actively supporting the strikers' case.

This manifest spirit of union cooperation was vividly portrayed in yet another instance. The central president, being informed that Norman Thomas desired to speak in Durham, appointed a committee to provide a suitable hall where Thomas could depict textile labor conditions. This action of the central was rather unusual because on numerous occasions it had been "warned against the insidious propaganda of the Socialists and Communists." As a matter of fact, just a few weeks prior to the strike the central had coldly rebuffed a New York woman who had solicited their attendance in a New York Congress of Labor Unions. They feared the taint of communism. In Thomas' case, however, the delegates justified their actions by insisting that Thomas was both a preacher and a champion of all submerged groups. Furthermore, they claimed that Norman Thomas was not liable to disrupt trade union organization; on the contrary, he would inoculate the strikers with a firm resolve to carry on. Undoubtedly the reasoning of the delegates was sound, for Thomas gave a stirring plea in behalf of the textile laborers. Not only did the strikers receive new hope and determination to maintain the strike, but many townspeople contributed additional and liberal donations.

Under these conditions the Durham strike probably could have continued for some time; however, the national strike officially terminated on September 22nd. The Durham textile laborers, nevertheless, did not return to work until the 25th. At the central meeting following the end of the strike, the strike committee reported its three weeks' activity: a collection of $607.16 in cash and over $1000 in provisions.

While the committee functioned very well, indeed, the results of the strike were what one textile union leader laconically termed "empty promises." The textile unionists had early declared it to

be a great victory. Very soon, however, they recognized that it was solely a moral victory, not an improvement of conditions, wages, or hours. Of course, several of the textile unionists were satisfied because they had prevented the owners from entering the mills. But the great majority of the textile laborers anticipated wage increases. When those increases did not appear that group abandoned the textile unions.

Similar to the experience of the locals, the central, at first, claimed the strike "a great stride forward for Durham labor." But when the central observed a membership shrinkage in the textile delegation, they strenuously urged the laborers to remain in their locals. However, their efforts did not stem the decline in union membership. Furthermore, and of tremendous importance, the conspicuous decline in textile unions discouraged the remaining affiliated unions. The result was that the central gradually lost both delegates and locals.

Probably the loss which was felt most keenly was the decimation of the Negro locals. Throughout the weeks previous to the textile strike the white tobacco unionists, with the assistance of the central representatives, steadily carried on organizational activities among the Negroes. After considerable expenditure of effort these white organizers managed to establish small organizations in both tobacco factories; nevertheless, the vast majority of Negroes seemed particularly reluctant to organize. Shortly before September 1, therefore, it was "rumored" amongst the Negroes that only through union membership could they obtain a job. The textile strike, closing hosiery and cotton textile mills, convinced the Negroes that the "rumor" was authentic. Consequently, in early September they flocked into the unions. For instance, on one meeting night 500 Negroes joined a Negro local; and, the week following, 700 affiliated.

Soon after this, the white tobacco locals reported that the Negro assembly-hall was "over-running and could not hold the members." This statement was later verified because two Negro locals, having a combined strength of 1800, affiliated with the central. But within three weeks after the end of the textile strike, the Negroes rapidly deserted their locals. The central endeavored to

prevent this weakening of the unions, but its efforts were fruitless. One organization, the American Tobacco Company Negro local, disintegrated. The other, Liggett and Meyers, shrank to a handful of loyal Negro members and remained stationary.

Spectacular and fast moving as the Negro organizing campaign had been, another activity of the central assumed far greater significance in the eyes of the community. That was the rôle of the union in the state gubernatorial campaign of 1936. For it was then, and for the first time, that the central presented a unified and coherent voting bloc.

Prior to this campaign the central had lacked vitality and leadership in political activities. The union had always proclaimed the futility of campaigning for a gubernatorial candidate since, the central alleged, immediately upon assuming office he would serve the "machine." By "machine" the delegates meant the state Democratic party, the organization which selected the man who was to become governor; and for 1936 the party officials had chosen Clyde R. Hoey. Having this traditional distrust of any man who appeared to be linked with the "machine," the central would not campaign for Hoey.

Thus, there was an opportunity for Ralph MacDonald, who fiercely assailed the "machine," to secure the allegiance and faith of the central. This Winston-Salem school teacher was no demagogue, suddenly appearing on the scene. Elected in 1934 to the legislature, his record was one long fight against the "machine," against the sales tax, for heavy taxation on corporations, for increased educational facilities, and for improved labor conditions. Moreover, in August, 1935, he delivered the main speech at the annual State Federation of Labor convention, held in Durham. Again he reiterated his attacks. The result was that MacDonald not only received the support of the Durham central but also of the entire state labor movement; and the convention ended with cries of "MacDonald for Governor."

From this time on the collective group of central delegates, believing they finally had an individual who would smash the "machine" in North Carolina, became a powerful element in the campaign for the nomination of Ralph MacDonald. Early in

November the central purchased $5 worth of "MacDonald Certificates." Then as the campaign progressed delegates subscribed for additional certificates.

By the first of the year 1936, however, the delegates were eager to set up a political mechanism. Consequently, the president, desiring to exclude politics from regular business sessions, appointed a large steering committee to promote political matters. The committee later scheduled monthly meetings for all local officers. In the whole campaign of 1936, however, it should be noted that the union did not campaign for national or local candidates. For instance, in April, 1936, George Berry requested its assistance in his Labor's Non-partisan League. The central, after considerable discussion, refused to back his or any group not sanctioned by the A. F. of L. In addition to Berry's request, various local candidates attempted to secure the central's endorsement; but their efforts also were ineffectual.

While the central as a unit stubbornly refused to assist any political candidate except MacDonald, it certainly did not hesitate to attack enemies. For example, in April a delegate informed the union that the *Union Herald* of Raleigh, a supposedly union paper, was "politically lambasting" the State Federation of Labor president and MacDonald. Furthermore, he contended that the editor was openly campaigning for Hoey. Thereupon, another delegate recommended that unionists who subscribed to the *Herald* write on the paper covers "refused" and return them to the post office. The *Herald* would then be forced to pay the return postage.

The effects of this scheme are unknown. Very soon, however, the central contrived another plan, a scheme which almost "stole the political show" in Durham. In previous years the Democratic precinct meetings, even though determining the county party control, were poorly attended. This time, however, the delegates of Durham's organized labor unexpectedly appeared. The result was that they elected 10 of the possible 30 members of the county executive committee; or in other words, 10 of the 16 precinct chairmen were members of, or favorable to, organized labor. The situation was unprecedented and a distinct challenge to the "ma-

chine." It was obvious that Durham's unionized labor was dissatisfied with the existing party control.

Partial command of the precinct committees, however, was not deemed sufficient power. Consequently, preceding the primary on June 7, the president advised the central delegates to guard each precinct poll so as to prevent the possibility of fraud. This precaution was undertaken. Whether it was successful or even necessary, of course, is unknown. What is definite is that the state primary resulted in Hoey and MacDonald each receiving approximately the same number of votes. Hence, a run-off election was scheduled for July 4.

During the intervening weeks the central delegates intensively carried on a house-to-house campaign. Furthermore, they planned and held a huge political rally in the county courthouse. It is worthy of mention, too, that the central delegates not only volunteered their time, but also contributed additional financial assistance. For instance, they donated $25 for the MacDonald headquaters in Durham and $15 for a radio address of MacDonald's. Doubtless this industry of the delegates was partially rewarded when MacDonald carried Durham County. However, the returns from the entire state gave the election to Hoey.

While this defeat was a hard blow, it did serve to make the Durham unionists conscious of their political strength for the future. However, it should be stressed that the functions of the central are not limited to organization and politics but are spread into varied fields. For instance, the delegates established a cooperative bakery, which operated for several months and then failed. They struggled against the machinations of a labor spy. Delegates often organized textile locals in the surrounding mill villages. They argued the pros and cons of industrial unionism until an A. F. of L. official prevented the discussions. The central appropriated money to assist strikers at the Durham Hosiery Mills. One committee interviewed the public school board and demanded that the so-called benefits of the "stretch-out" no longer be taught. All Durham unionists in 1934 cooperated to place the union label on the Durham *Herald-Sun*. These indicators of the nature of the central, manifestly, are samples of a history which is replete with dozens of similar examples.

III

Does an examination of all central activities, then, appear to prove that the central has been a dominant factor in the Durham labor movement? The delegates of the Durham City Central Labor Union steadfastly declared it to be their purpose to represent all labor and to act as a vigorous force in the unionization of all laborers within the vicinity. That they have made progress towards this objective can be seen, when it is realized that twelve years ago only four or five unions were in Durham, while today, 18 are securely established. Unionists claim, taking all factors into consideration, that Durham is the best organized town in North Carolina.

Nevertheless, it must be borne in mind that the Durham central of 1926 and the central of 1934 were both created by outside influences. That is to say, the first union was organized due to the construction of the Woman's College of Duke University; and the second, due to the passage of the National Industrial Recovery Act. These facts inevitably resulted in the union experiencing two peaks of activity. It was, indeed, a frenzied activity during the Blue Eagle period of 1934; for then the central represented between 12,000 and 14,000 laborers.

When later the textile strike resulted in nothing but the workers undergoing three weeks' vacation without pay, the cooling in the enthusiasm of the textile workers was transferred, in turn, to the remaining young locals. It is interesting to note in passing that this condition commenced before the Supreme Court declared the National Industrial Recovery Act unconstitutional. The result was a distinct ebb in Durham union strength. Thus, the textile strike was a blow from which Durham organized labor is not likely to recover for a number of years.

It was not long after this decline had set in that the delegates recognized that volunteer organizers were inadequate and, more important, that the workers themselves must be "educated" to the power of union strength gradually. It was a process which took time and patience. Consequently, the Durham City Central Labor Union determined to settle down and attempt to build a union movement slowly. That was its status on September 1, 1937.

What does the future hold for the central?

There seems little doubt that the central union can adequately handle the technical and routine "business-unionism" needs of the locals. With that phase of the future there apparently are no urgent problems.

Nevertheless, "business-unionism" tactics alone can hardly enable the industrial worker to create a "good life" for himself and his family. The central has enormous potentialities for increasing the Durham workers' standard of living; but in order to do so, the union cannot limit its activities merely to the traditional A. F. of L. efforts, often abortive, to raise wages, to exert political pressure, to circulate educational propaganda, and to maintain label activities. True, these functions are undeniably essential. But the success of the union in attaining an effective organization largely depends upon its assisting union labor in Durham to become increasingly conscious of the following problems:

(1) Durham industrial unions will always be vulnerable as long as there are within the vicinity numerous poorly paid tenant farmers who are willing to accept lower wages than the union standard. The central by itself, however, cannot initiate a program which will tend to relieve the poverty of the farm laborers. That must be left to the agencies who are primarily concerned with agricultural problems. What the central might do, however, is to acquaint its delegates with the fact that a Durham labor movement cannot ignore the possibility of competition by these farm workers.

(2) The central has openly admitted its failure to organize the Negroes into permanent and effective locals and has generally rationalized its impotence by declaring that the Negroes "were satisfied with conditions." The central's failure may have been due to wrong organizing methods; for, in some Southern sections, the United Mine Workers, International Longshoremen's Association, and other unions have been comparatively successful in organizing the Southern Negroes.

In the last analysis, however, the task of organizing the Durham Negroes must rest with the tobacco locals. They are the unions which will immediately gain as a result of a complete unionization

of the tobacco factories. It will tend to strengthen their drive for a "closed shop." Thus, about all the central can do in reference to the Negro laborers in Durham is to encourage the tobacco workers' locals and to emphasize the fact that the presence of Negroes poses an economic, not a racial, problem.

(3) While the central recognized that the company mill village is "the mill-stone around the neck of the textile worker," the union rarely discusses the influence of this out-moded and paternalistic arrangement. Once again the delegates have rationalized their inertia by claiming that "to do away with the mill village takes time and education."

The central has been, furthermore, singularly inarticulate on the influence of the mill village church, an institution largely dominated by the company. This ignoring of the problem is chiefly conditioned by the cultural setting: older Durham laborers believe in a church grounded on a fundamental faith in the Bible's teachings. The company-hired minister preaches contentment with conditions on earth and assures the Durham flock that God foreordains man's life and that man receives his "just reward in Heaven."

In short, the entire system of company village and company church is pernicious because it inoculates the Durham textile laborers with a fear of the "boss-man." Frequently the mill owner not only controls the housing facilities, but, equally important, he teaches in the Sunday-school, pays the minister's salary, and donates cash for church functions. Accordingly, the "hands" never have an opportunity to see social problems through their own eyes; their perspective is always clouded by the "boss-man's" vision. Therefore, the mill worker can never assume an individual civic responsibility.

It is exceedingly difficult, of course, to conceive of means whereby the central may effectively help to abolish the company village and the company dominated church, since, it must be noted, the Durham situation is simply one manifestation of the social milieu of the Southern region. Nevertheless, the central might persistently instill the desire for home ownership in the minds of the textile delegates. Over a period of years this gradual "education" might result in the textile workers voluntarily vacating company

houses. Once the "mill hill" disappeared, then the church perhaps would lose its peculiar significance as a change-resisting institution.

(4) The central's June, 1936, failure to capture the entire County Executive Committee of the Democratic party may have been due to a lack of political experience. Whatever the reason, this political activity of the central evidently showed the local "machine" men that the Durham central was a latent political force. The result has been that the local old-line politicians have assiduously cultivated the central's favor.

Furthermore, the central still has the skeleton of an efficient political organization. Even though the MacDonald campaign is history, the state "machine" well remembers that Durham County went for MacDonald. Hence, Durham labor leaders are well known in state political circles.

The Durham central has demonstrated that it can successfully conduct a political campaign without splitting into factions. Furthermore, the central can probably influence a large number of voters in Durham County. Therefore, the central might profitably discard its blind faith in the promises of party politicians and, remaining within the Democratic party, proceed to nominate a labor candidate for the state legislature.

(5) The central delegates recognize that leadership is undoubtedly the most important issue facing them. They claim that with dynamic and responsible leadership they can organize the Durham laborers. As a matter of fact, their reasoning is apparently sound since the locals of white tobacco workers, largely due to the courageous and militant leadership, have steadily improved their bargaining position. This can also be said, with some reservations, for the printers and plumbers.

The movement by John L. Lewis and the Committee for Industrial Organization into Durham, because of the significance of leadership, promised far-reaching results for union organization. Durham unionists recognized that the Committee for Industrial Organization might well be the spear-head of an organizing boom in Durham; nevertheless, they also maintained that a group of local officials, capable of sustaining enthusiasm, was indispensable. Consequently, up until September 21 the delegates agreed to keep

the Green-Lewis feud out of their central. The result was that organization activities progressed by leaps and bounds.

At this point it needs emphasizing that three years ago the central was woefully lacking in men who could efficiently manage a local. In September, however, it was different. Union leaders and potential leaders had learned many lessons from the disastrous textile strike. Furthermore, they were no longer fired with the bright crusading zeal of the National Industrial Recovery Act; instead, they knew that a union movement grows slowly and demands sacrifices.

But it was a lack of agreement over outside leadership which disrupted the central labor union on September 21, 1937. The delegates loyal to the A. F. of L., acting under the orders of George Googe, Southern representative of the A. F. of L., expelled all C.I.O. locals from central union meetings. Although technically still affiliated with the A. F. of L., the two industrial tobacco locals voluntarily withdrew from the central.

Today, accordingly, the Durham central is split by civil war. C.I.O. and A. F. of L. delegates bitterly compete with each other. The result of the split between the faction supporting the A. F. of L. and that supporting the C.I.O. has been disastrous. Dual unionism in Durham would unquestionably mean the end of the present city central as an effective force in carrying on the wider purposes of the labor union movement in Durham.

THE NATURE OF ECONOMIC REGIONS

AUGUST LÖSCH

Heidenheim, Germany

Impressed by the accidental way in which states are created and smashed, we are looking out for a more natural and lasting spatial order of things. Geographical and cultural regions, however, are from an economic point of view just as artificial units of reference as states are. True enough, they all are of some economic relevance, but this does not alter their essentially non-economic nature. Important as their balance of payments, their price levels, their barter terms of trade may be for them, to *us* these averages and aggregates are entirely arbitrary and accidental. It is independent economic regions that we here discuss, regions not derived from but equivalent to those political, cultural, geographical units.

Even if we already knew the characteristics of economic regions —which we do not—their counterparts in the world of reality would be likely to differ more from each other than from an ideal picture. Hence studying the ideal region is both the only way to learn about the *essential*, and the first step towards investigating the *actual* structure of any real economic region. So we shall deal first with the theoretical nature of such regions, and second with their actual existence.

I

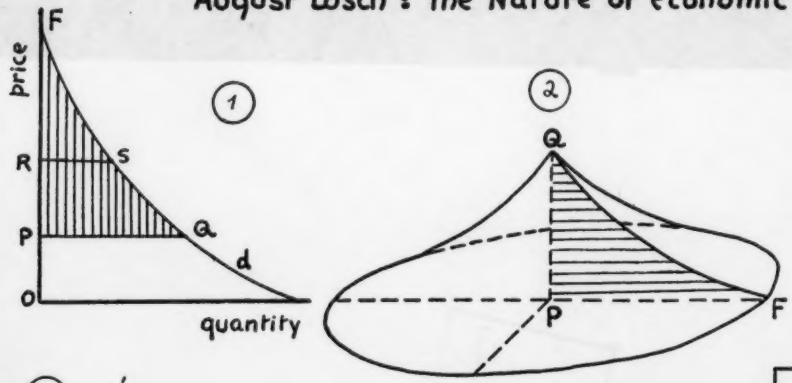
Let us start from very radical assumptions in order to prevent any spatial differences of an uneconomic origin from hiding in our starting points. We assume a vast plain with an equal distribution of raw materials, and a complete absence of any other inequalities, either political or geographical. We further assume that nothing but self-sufficient farmyards are regularly dispersed over that plain. How can any spatial differences possibly result from this initial situation?

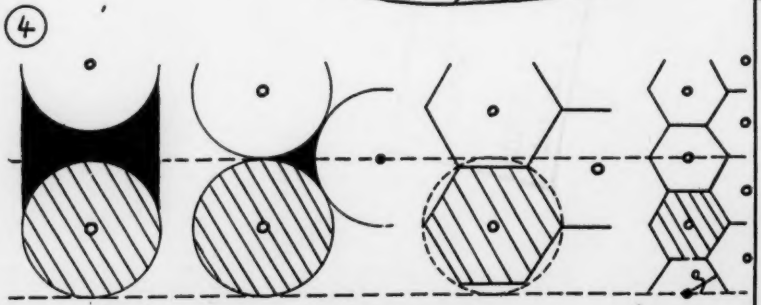
Supposing one of those farmers tries to produce a certain commodity beyond his needs, will he be able to sell the surplus? He will be helped by the economies of large scale production, and handicapped by costs of transportation. Will the balance be in his favor? If his neighbors all have a similar way of living, the demand curve of one of them will be typical for the others as well. Let us assume d in Figure 1 to be such an individual demand curve for beer. OP being the price at the center of production P, the demand of the people living there will be PQ. PR being the freight from P to R, the demand of each of the people living in R is RS. Farther out, at F, where the freight is PF, no more beer will be sold. Hence PF is the maximum shipping radius for beer, and the total demand within that radius is equal to the volume of the cone which we get by rotating the triangle PQF around PQ as axis. Figure 2 shows that cone. To repeat: its volume, corrected for the density of population, is equal to the total possible demand if the price at the factory is OP. For other prices at the mill we get other cones of demand, and as a final result the curve Δ of Figure 3, that represents the total demand as a function of the price at the mill. π of Figure 3 is a so-called "planning curve," showing the minimum costs at which a given output could be produced if a new factory had to be built for that purpose. Only if the planning curve π intersects or is to the left of the total demand curve Δ, is it possible for our farmer to run a brewery. Otherwise he would produce at a loss.

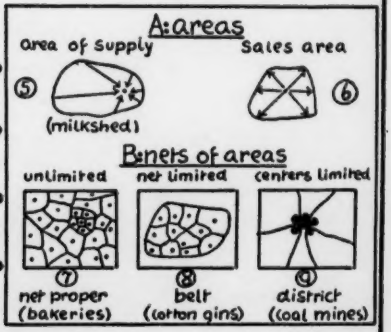
The shape of a trading area, however, is not a circle, as we have so far assumed. For even if the whole country were filled up with such circular areas that are close enough to just touch each other, a number of people could still successfully try to enter the brewing business. For all the black corners in Figure 4 are left unused, and moreover, as has been shown by Chamberlin,[1] the size of the

[1] For those not acquainted with Chamberlin's theory it may be worth while to point out that his argument is based mainly on two facts: (1) Due to product differentiation, of which differentiation of the seller's location is just a special case, the demand curve facing the individual seller is not horizontal (as in pure competition where the product is perfectly uniform) but has a negative slope. If e.g. the seller raises his price, not all his customers will buy from his competitors as in a perfect market. To a number of them the special advantages (e.g. of convenient location) offered by him will be worth the higher price. (2) As long as the demand curve is to the right of the cost curve the extra profits thus possible

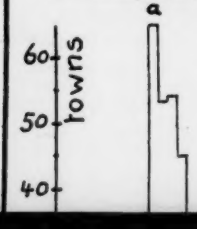
August Lösch : The Nature of Economic Regions







C: systems of nets



10

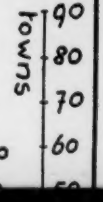
Iowa 1930

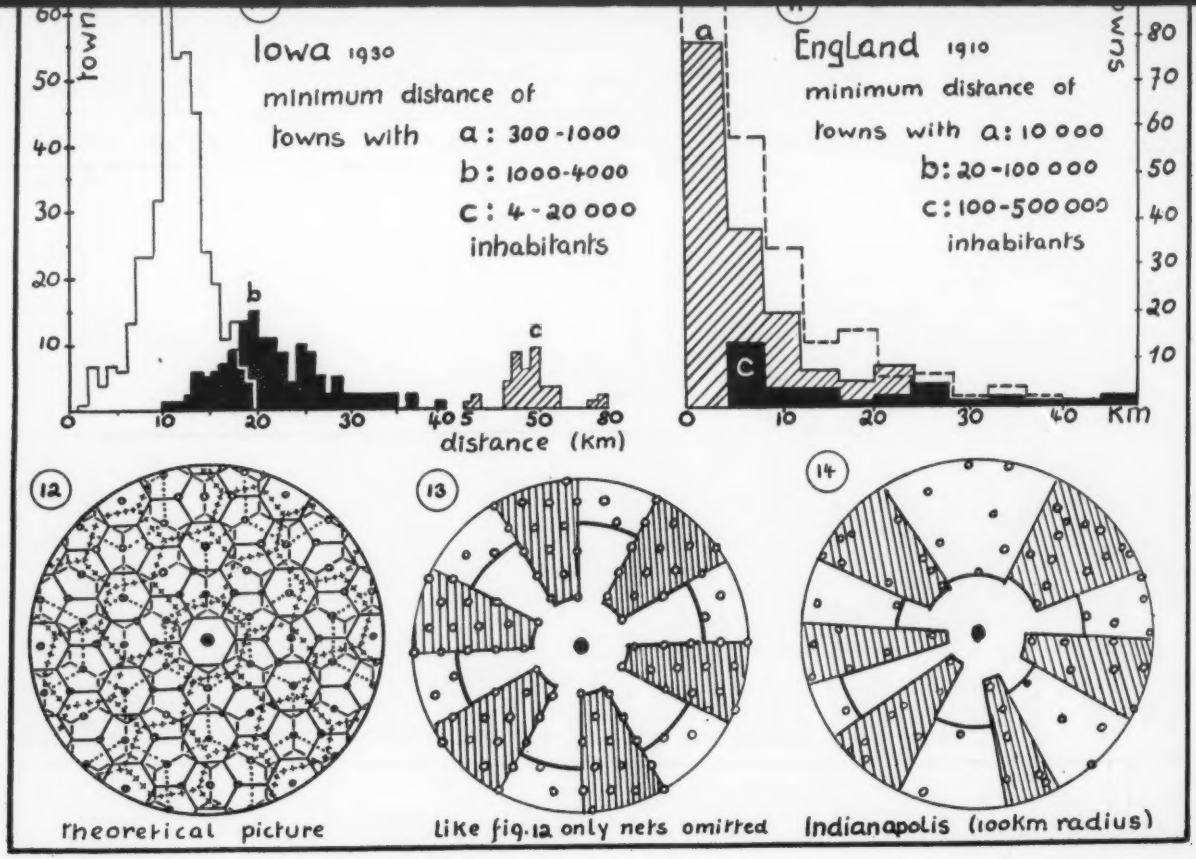
minimum distance of towns with a: 300-1000

11

England 1910

minimum distance of towns with a: 10 000




Iowa 1930
minimum distance of
towns with a: 300-1000
b: 1000-4000
c: 4-20 000
inhabitants
town
distance (Km)
England 1910
minimum distance of
towns with a: 10 000
b: 20-100 000
c: 100-500 000
inhabitants
sum
Km
12
13
14
theoretical picture
like fig.12 only nets omitted
Indianapolis (100Km radius)

individual firm will be reduced from MN to $M'N'$ (in Figure 3) without rendering it unprofitable. The way to make use of the corners is to change the shape of the area into a regular hexagon. This will shift the curve Δ slightly to the left, as the hexagon is somewhat smaller than the circle that circumscribes it. Moreover, by Chamberlin's operation the size of the hexagon will be reduced until it is so small that the corresponding demand curve Δ' just touches the offer curve in N'. Now apparently no more people can enter the brewing business.[2] As the largest possible shipping radius results in a total demand MN, so the necessary minimum radius must yield the demand $M'N'$. Figure 4 shows the development from the largest to the smallest possible shipping range.

Two other possibilities of avoiding black corners are conceivable, namely the square and the triangle. But it can be shown[3] that the hexagon has an economic advantage over both: it affords the larger demand per square mile, provided the total area is the same in all cases. *The hexagon is, therefore, the most economical shape for trading areas.* For every commodity, a trading area in the form of a hexagon with a characteristic inner radius ρ is necessary and sufficient to render the production of this commodity profitable.

The trading areas of the various products look like nets of such hexagons, from very small ones to very large ones, depending upon the product. We can throw these nets over our plain at random. In spite of the resulting disorder, every place on the plain would have access to every product. Several considerations, however, which can only be mentioned here, suggest a more orderly and at the same time more economical arrangement. In the first place, we lay our nets in such a way that all of them have one center of

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will attract new competitors. They will sell products slightly different from those already in the market, or, as in our case, locate their businesses at places more convenient for part of the buyers. This will shift the demand curves of the old establishments to the left until they just touch the cost curves and all extra profits are wiped out. (See E. Chamberlin, *The Theory of Monopolistic Competition.*)

[2] We disregard here the possibility of reducing the area even more through spatial price discrimination.

[3] Whilst a more accurate and detailed proof is too lengthy for this short paper, the plausibility of our assertion can readily be seen from the fact that the regular hexagon has the advantage over the circle of using up all the territory, without departing as far from the ideal circular shape as either square or triangle.

production in common. This point will enjoy all the advantages of a large local demand. Secondly, we turn the nets around this center so that we get six sectors where centers of production are frequent, and six others where they are scarce, as is shown on Figures 12 and 13. This arrangement does not deprive any place of its access to every product, and at the same time provides for the best lines of transportation. It can be shown that the aggregate of freights is a minimum,[4] and the final result is a complicated but orderly system of market areas. How many of these self-sufficient systems will come into existence on our plain depends merely upon the commodity which has the largest necessary shipping radius, as long as there are no economic limits to the size of the central city.

More striking about our result than any particulars is the fact that we suddenly have crowds of economic areas on a plain which we deprived of all spatial inequalities at the outset. We first have the hexagonal market area surrounding every center of production or consumption. Second, we have a net of such areas for every commodity. And third, we have a systematic arrangement of the nets of market areas of the various commodities. It is the latter, the self-sufficient system of market areas as shown in Figure 12, that I should like to call the ideal economic region. How much of it we find in reality will be discussed in the second part of the paper.

II

As soon as we drop the assumption of a uniform plain, the size and shape of our market areas evidently become irregular. Moreover, if we no longer stick to the supposition of a uniform product, the individual areas for the same line of production overlap, and may consequently be full of holes particularly near the periphery. Yet there are numerous instances left where our assumptions are roughly fulfilled and where our results, therefore, must hold true without much modification, as factual investigations indeed seem to indicate.

[4] As more centers of production coincide more consumers are able to buy from local mills than under any other arrangement of the nets. Not only the mileage of transports but the mileage of lines of transportation as well is reduced.

Actually it is not quite accurate to compare the numerous market areas of a commodity to a net. Due to the overlapping just mentioned they often rather resemble fish scales or an irregular layer of slabs of slate. In spite of this modification the essential characteristics of a net are mostly retained, and as a matter of fact most of the maps showing trading areas that were prepared either by scholars or by business men do not give any consideration to the overlapping at all. Far more important than this modification of the structure of our nets are the changes in their extension. In some instances, for which bakeries may serve as an example (Figure 7), the nets still cover the whole territory under consideration. In fact, a survey made by the author of about half the American industry[5] would seem to indicate that the importance of this type of production is rather underrated. Nevertheless, the very nets or at least their centers are often compressed on a relatively small space, and we may speak then of belts and districts respectively. The former case may be exemplified by the net of the areas of supply of the cotton gins that is naturally limited by the cotton belt. And an illustration of the concentration of the centers of production only are the mines in a coal district (see Figures 8 and 9 respectively). Instead of tracing out the areas, which is a very difficult task, we can show their character just as clearly by measuring the minimum distance of their centers from each other. This is done in Figures 10 and 11, not for centers of a single production but for towns of a supposedly similar economic function. In Iowa, with its rather equal distribution of production, the distances between towns increase with their size, just as in our theoretical picture based on assumptions approximately fulfilled in Iowa. In England, on the other hand, the cities cluster in the coal districts and show the same distance from each other irrespective of size. Such concentrations of the nets or their centers may have purely economic reasons such as the advantages due to the proximity of many establishments of the same branch. But it may also be a reflection of the limited geographical extension of factors of economic consequence although not of economic nature. It is worth noting, however, that these non-economic

[5] It will be included in a forthcoming book on the laws of location.

factors and their economic reflections are not co-extensive. For instance, the area where cotton *could* be grown is larger than the actual cotton belt.

In addition to the limited size of the nets, and the overlapping of the individual market areas, a third deviation from the ideal pattern is worth mentioning. In our theoretical deduction we had to cope with the problem of how the various nets should be located, while the distribution of the centers of production within a net was conspicuous for its regularity. Actually this too is a problem, and a very difficult one at that. Neither of the two traditional instruments of determining the geographical distribution of production can solve it: the theory of location proper cannot because it is applicable only to a single establishment, not to a whole industry; and the theory of comparative costs fails because it is applicable only to trade between men, not between countries. The only adequate solution of the location of all the interdependent centers of production is a system of locational equations which the author hopes to present later.

The systems of nets come off worse in the real world than either the nets or the individual market areas. It is simply impossible to arrange all the irregular nets in such a way that they have at least one point in common. There exists nowhere either a city with a complete set of industries or a self-sufficient region. But this is not the worst. We could at least imagine and probably find a few actual cases where regions trade their specialties with each other through their central cities, and through them alone. In such an instance a systematic arrangement of towns as in our ideal region would still be conceivable. Actually, however, small places which in every other respect entirely depend upon neighboring cities are the centers of large market areas. As far as their particular products are concerned, even metropolitan cities or the whole nation may be tributary to those little places, the industries of which neither need nor attract a large local market. Furthermore, while the regional system of nets of market areas centers in a large city, not every big city dominates such a system. Many mining towns, for instance, have not much of an economic function towards their hinterland. In contrast with such special-

ized cities, a regional center is characterized by a variety of production and trade that links it to the surrounding country. If, now, we disregard all the market areas of the type just described, a substructure of economic regions is left. They *differ* from the ideal pattern in the important respect that there are not self-sufficient; they *correspond* to the ideal inasmuch as they too are based (1) on the advantages of a large local concentration of production, consumption or trade; (2) on the most economical layout of lines of communication.

This regional substructure can be discovered almost everywhere but it is not everywhere of equal importance. Its importance can be measured by comparison with those market areas that have to be eliminated from a regional analysis as was just pointed out. To give some examples: regionalism prevails in southern Germany.[6] The distribution of the undisputed regional centers: Frankfurt, Nürnberg, München, Zürich, Strassburg, with Stuttgart in the middle is very regular. There should be one more center to the south of München but the Alps make this obviously impossible. The rise of München over Augsburg that had the advantage of an earlier start is worth noting. München has the better location from the point of view of our theory. It is right in the middle of the region, and at the proper distance from the neighboring centers. The German Ruhr district, on the other hand, hardly displays any regional pattern whatever. According as the systematic or the chaotic distribution of the nets of market areas prevails in a given case, we may stress or disregard the regional substructure. From this it follows that while the regional concept will be most realistic with respect to some parts of a country, it would be difficult and not very useful to divide a state up into its regions.

Finally, as to the relation between economic and other regions, it is essential for the regional system of market areas to have a center. In rare and particularly fortunate cases these economic centers are the same time cultural and political ones, thus becoming the true heart of their region, as Paris is for France.

[6] This has very ably been shown by Walter Christaller, *Die zentralen Orte in Süddeutschland.*

III

To summarize, we found three main types of economic areas: simple market areas, nets of such areas, and systems of nets. Or, if we want to give a popular name to each, we may speak of markets, belts, and regions. In this sequence they become more complex, more self-sufficient, and unfortunately less real. On the one end there are the individual market areas, most simple, most real, and most dependent upon trade. The systems of market areas, or regions, on the other hand, are very complex; in an ideal case quite self-sufficient, but harder to find in reality. Many commodities are produced and traded outside of any system. And whatever systems we do find, overlap even more than the market areas of a single commodity. A clear economic region is a fortunate accident rather than a natural subdivision of states. Still, beneath a sphere of irregular market areas, we find a regional substructure of varying importance almost everywhere. Between the simple area of sale or supply and the full regional system is the net. The geographical extension of these nets or of their centers is often small. In this case these belts or districts of production or consumption are very conspicuous, but should still be distinguished from regions. A region is a system of *various* areas, an organism rather than just an organ.

COMMUNICATIONS

I wish herewith to correct several statements made by Mr. H. M. Douty in his review of my book, *Labor's Road to Plenty*, which was published in *The Southern Economic Journal*, April, 1938, pp. 503–504.

1. The reviewer states: "Simple cause, simple remedy; repeal all legislation regulating hours of labor and wages and persuade workers to relinquish their propensity to bargain collectively." The book at no point calls for the repeal of all wage and hour legislation; it specifically at pages 203 and 204, as well as elsewhere, remarks upon the necessity for collective action between labor and management. The reviewer is in direct error in his statements.

2. The reviewer states: "Mr. Rucker maintains that this percentage (payrolls to value added) remains relatively constant over time, and, through an interesting use of statistical evasion, proves his point." The term "evasion" suggests that the author has data which prove otherwise; that such data are available to the reviewer. The point is important for its factual value; if data which disprove official records on this score are at hand, I shall ask you to request the reviewer to produce them or cite their sources.

3. The reviewer states: "Did labor legislation and collective bargaining tend . . . to reduce employment opportunities for labor and labor incomes as a whole during 1923–1929 and 1929–1933? No doubt Mr. Rucker thinks he has answered this question; unfortunately, however . . . the data . . . have remarkably little to do with the case." This statement is not usually made in reviews without conclusive evidence in the hands of a reviewer. May I ask for the sources and nature of the data which contradict that of the *U. S. Census of Manufactures?*

4. The reviewer states: "The percentage which wages formed of value added by manufacture dropped from 42.6 in 1923 to 36.4 in

1929." That is not the case and Table 29 and page 171, together with the footnote at page 175 specifically caution the reader against this pitfall. Reference to the original source of the data, the *U. S. Census of Manufactures*, and explanatory footnotes will equally correct the reviewer.

5. The reviewer states: "During the same period (1923–29) profits increased by 84 per cent." Attention is directed to the Report of the Income Tax Division, U. S. Treasury Department. Net income of all corporations combined increased from $6.308 billions in 1923 to $8.740 billions in 1929 or somewhat less than 40 per cent. The reviewer's statement is not confirmed by those official records. The percentage of manufacturing corporations earning a profit in 1923 was 63.1 of total active corporations; in 1929, the figure was 57.5, the decline in profit probabilities being greatest in the industry groups where wage and hour legislation through collective bargaining has made its greatest strides. (See Chapter V of the book. The footnote at page 48 will also be found instructive.)

6. The reviewer states: "But he says not a word about increasing rigidity of the price structure resulting from monopoly and quasi-monopoly control over large sectors of our economic life." That statement is incorrect; the book primarily deals with monopolistic control of the price of labor, i.e., wage-rates; the reviewer is referred particularly to pages 191, 195, and 197 and especially to the footnote at page 147, all emphasizing the necessity for flexible prices. The problem of labor relationships can, I think, be resolved only by a factual approach; it is unfortunate that your reviewer has imputed to the book statements which are not made and has neglected to say that the data with which he disagrees are data taken directly from the official records of the U. S. Treasury Department, the U. S. Department of Labor and the *U. S. Census of Manufactures*. The objective citation of contradictory data upon which his views are based would, I feel, be helpful to both the author and those of your readers interested in an impersonal factual approach rather than an emotional one.

Eddy-Rucker-Nickels Company,
Cambridge, Massachusetts

ALLEN W. RUCKER

May I comment, point by point, upon Mr. Rucker's objections to my review of his book?

1. The central contention of Mr. Rucker's book is that wage and hour legislation and collective bargaining are "alien theories" that are undermining the American System and tend "to create permanent, large-scale unemployment and a declining standard of living" (p. 49). This theme is found on almost every page of the entire volume. The implication is overwhelmingly clear that, in Mr. Rucker's opinion, past efforts at wage-hour legislation and collective bargaining were mistakes that should be rectified. The "collective action" between labor and management that he calls for is scarcely identical with collective bargaining as commonly understood.

2. Mr. Rucker states that the proportion of wages to value added by manufacture "tends to be remarkably constant" (p. 174). He sets down the percentage of wages to value added for 1929, 1931, 1933, and 1935 (pp. 174–175), but omits the percentages for the earlier years of his period. These percentages are: 1923, 42.6 per cent; 1925, 40.1 per cent; 1927, 39.3 per cent. These figures, together with those for the later years, indicate that the proportion does not tend to remain remarkably constant.

3. Nowhere does Mr. Rucker attempt to show for specific occupations or industries that wage rates were "too high" during his period (1923–1933); i.e., were above marginal productivity, and hence affected adversely employment and total labor incomes. As nearly as I can make out, his method is to assume that wherever employment opportunities or labor incomes declined legal wage-hour regulation and collective bargaining were responsible (Chapter VII and elsewhere). He appears to believe that this is true in cotton textiles, for example. But during his period (until the cotton code in the summer of 1933) there was no legal wage regulation in this industry; standards of hours, especially in the South, were extremely low, and there was very little collective bargaining. The United Textile Workers had a membership of about 30,000 during this period. In fact, outside of a few state laws that applied to women and children there was practically no legal wage regulation anywhere during this period; legal regulation of hours was confined for the most part to women and children; the

labor movement failed to gain between 1923 and 1929 and lost heavily between 1929 and 1933. In discussing employment and payrolls in railroad transportation, where effective collective bargaining did take place, Mr. Rucker fails to mention such things as the rise of competing forms of transportation and the very considerable gains in railroad labor efficiency. Many similar examples of Mr. Rucker's technique could be given. No doubt he attributes the decline in employment in the buggy industry to his twin demons.

Moreover, he persistently confuses (p. 49 and elsewhere) employment opportunities in particular fields (especially manufacturing) with employment opportunities in the whole economy. Thus, while employment in manufacturing remained relatively stable between 1923 and 1929, employment in agriculture fell relatively, and employment in trade, transportation, professional service, etc., increased. The percentage of the population 10 years of age and over gainfully employed was 50.3 in 1920 and 49.5 in 1930. His apparent belief that attempts to regulate wages largely explain the depression of 1929 (p. 79 and implicit throughout the book) is almost incredible.

4. It is true that the figure for value added by manufacture for 1929 and subsequent years is not strictly comparable with the figure for previous years because of the exclusion of "mill or shop supplies" from the calculation of "cost of materials." This means that indicated increases in the cost-of-materials items understate the true increase, and vice versa. The *U. S. Census of Manufactures* states that "for most industries these understatements and overstatements are slight and unimportant," but that they are important in a few industries. My guess is that this change in recording does not seriously impair the comparability of the data, but I cannot prove this.

5. Total net corporate profits increased 83.2 per cent from 1922 to 1929. From 1923 to 1929, as Mr. Rucker points out, the increase was somewhat less than 40 per cent (38.5 per cent). In my review I inadvertently referred to 1922 when I should have written 1923. Incidentally, net corporate profits in the highly unionized construction industry increased by 176 per cent between 1922 and 1929—56.5 per cent from 1923 to 1929. In manufacturing the

increase was 66.8 per cent from 1922 to 1929; 22.6 per cent from 1923 to 1929. There was no reason for industry to be unduly discouraged in the face of these increases. The figures are from F. C. Mills' *Economic Tendencies in the United States*.

6. Mr. Rucker assumes throughout the book that our economy is freely competitive, except with regard to wage rates. He does not indicate the extent to which monopoly practices prevail in the economy, and certainly not in the pages he cites. In fact, he contends (p. 195) that his wage scheme "provides the means of revealing the direction in which the nation must advance and the manner in which the rewards of productive effort have been, are, and probably always will be distributed in a free, competitive society."

Mr. Rucker deals with an important problem, but I do not believe he has shed light upon it.

The Woman's College, H. M. Douty
University of North Carolina

The Eleventh Annual Meeting of the Southern Economic Association will be held on October 28 and 29 at the Tutwiler Hotel in Birmingham, Alabama. The committee on local arrangements consists of Professor Louis W. Lohr of Howard College and Professor Emory Q. Hawk of Birmingham-Southern College. In addition to several addresses and papers on such subjects as social control, monetary and banking control, and rate regulation which will be given at the general sessions, there will be round tables on labor and industry, agricultural problems, business and personnel management, and social security.

Washington and Lee University Robert H. Tucker

The Nominating Committee of the Southern Economic Association has been appointed and consists of Dean R. P. Brooks of the University of Georgia, Chairman, Professor Harry D. Wolf of the University of North Carolina, and Professor Clarence E. Bonnett of Tulane University. Nominations for officers of the Association for the year 1938–1939, to be elected at the next Annual Meeting at Birmingham, should be mailed to the Nominating Committee.

University of Florida Truman C. Bigham

BOOK REVIEWS

The Abolition of Poverty. By James Ford and Katherine Morrow Ford. New York: Macmillan Co., 1937. Pp. viii, 300. $2.50.

The Mechanics of Prosperity. By Hobart C. Dickinson. Baltimore: Williams & Wilkins Co., 1937. Pp. xvi, 131. $2.00.

The Social Security Act in Operation. By Birchard E. Wyatt, William H. Wandel, and William L. Schurz. Washington, D. C.: Graphic Arts Press, 1937. Pp. xiii, 382. $2.50.

Prosperity And Depression. By Gottfried von Haberler. Geneva: League of Nations, 1937 (New York: Columbia University Press). Pp. xv, 363. $2.00.

Works on the relief of poverty and insecurity and on economic fluctuations continue to predominate in the stream of socio-economic publications. The authors of *The Abolition of Poverty*, a work apparently designed primarily for social workers and lay readers, analyze primary causes of poverty ranging from hereditary handicaps to war and unemployment and indicate courses of action whereby the incidence of each cause may be reduced. The authors conclude that the problem of poverty is soluble despite the multiplicity of interrelated factors wherewith poverty is associated.

Most poverty is preventable. Its causes are largely known; the means to their eradication are reasonably clear. But its elimination will not be accomplished by *laissez faire* or by piecemeal attack. These customary methods have already demonstrated their futility. The abolition of poverty requires organized concerted action covering each of the precipitating factors and their roots. Ultimate objectives should be visualized and mapped; and immediate objectives planned for sequence. Able execution would involve the use of all essential techniques and coordination of all special programs within a central policy.

The Mechanics of Prosperity is of interest primarily because the author is a physicist and inventor of the *economonstrator*, a machine designed to show when and why the economic system needs correction and where and how correction should be applied (see New

York *Times*, April 8, 1934). According to Dr. Dickinson, insufficient elasticity in the interest rate gives rise, in the existing money economy, to a residue of unused spending power which leads in turn to an upsurge of business activity. Such an upsurge almost inevitably leads to deflation and to decline in national income, a decline that can be arrested if the "collection of a residue of unused purchasing power can be prevented." The collection of unused purchasing power can be prevented by: (a) the establishment of an elastic interest rate through the substitution of non-fixed variable income securities for fixed income securities; (b) the establishment of government control over the "total amount of spending power actually in use." The author prefers the second method.

The Social Security Act In Operation, by several of the technical advisers to the Social Security Board, is designed to be a practical guide to the federal and federal-state social security programs. It "is an explanation of the Act and of its practical operation which should be of the greatest assistance in reaching an understanding of the social security policy of the Government and of the means it has adopted to carry out the policy." Separate sections are devoted to the provisions, administration, and operations of the old-age benefits, unemployment compensation, and public assistance and public welfare phases of the social security act. A complete account is given of the practical working of the act. Although the authors do not concern themselves with the broader problems of social security, as treated by Paul Douglas and E. Burns, they do indicate matters which must be thoroughly and continuously investigated: "Trends in wage rates, changes in the size and age distribution of the population, trends in mortality, amounts of immigration, ages at which retirement takes place, methods of financing social security, and actuarial principles applying to social insurance." The authors indicate a number of special types of research that must be carried out with respect to administration. No one interested in social security, or in uses to which types of social security data may be put, can afford to neglect this work.

Professor Haberler's treatise "is a first step in a more extended enquiry undertaken by the Economic Intelligence Service of the League of Nations into the causes of the recurrence of periods of

economic depression." The first half of the book is devoted to a critical description of the various possible explanations of economic fluctuations; the second, to the formulation of a synthetic explanation of economic fluctuation. Although not originally intended for this purpose, *Prosperity And Depression* is particularly well suited for use as a textbook in courses dealing with business cycles.

While Professor Haberler classes the various business cycle theories under six broad heads, he emphasizes the fact that differences in opinion have been exaggerated; that, "for certain important questions, a much greater harmony between the writers of different schools can be established than the superficial observer would believe or even than these same writers would be willing to admit." The author's own theory is not a new theory but a synthesis of the compatible elements of the various theories discussed, plus new and modified propositions developed by himself. With respect to a number of questions no definite conclusion is reached, it being emphasized that final selection of seemingly possible answers must await adequate empirical investigation.

Little attention is devoted to the analysis of long waves, Professor Haberler maintaining that as long waves work through the short waves, the long waves cannot be understood until the nature and mechanism of the short cycle are grasped. The author denies, at least so far as the modern world is concerned, that separate cycle theories must be devised to explain individual cycles. A practically applicable "general theory of the most important aspects of the cycle can be evolved" inasmuch as certain comparatively similar money and banking arrangements, wage-price systems, and elementary technological facts are deeply rooted in the present individualistic free-enterprise, money-price economy.

It is possible, within the space at our disposal, merely to disclose the author's approach; not to summarize his 200-page explanation of cyclical processes. He shows that a free-enterprise money economy is liable to cumulative, self-reinforcing processes of expansion and contraction; that deviations from "equilibrium" are followed, not by automatic corrective movements, but by conditions which cause the economic system to become, presum-

ably within limits, progressively more unbalanced. Initial progressively wider deviations of the economic system from equilibrium are ultimately checked by a variety of expansionary influences, the virtually inevitable precipitation of which halts the decline in volume of economic activity. The actual influence of these expansionary forces is conditioned, as is the advisability of state-intervention, by the situation in which they occur. For example:

> An isolated policy of keeping money wages up is very dangerous, although it is impossible to deny that a policy of wage-cutting may on occasion, up to a certain point, intensify the contraction before its favourable influences on employment and output makes itself felt. It may be very difficult to decide before hand whether such a temporary intensification is, or is not, to be expected from a given reduction in money wages in a number of industries. If there are reasons to believe that even without a wage reduction contraction of MV will go on—and, as we have seen in the chapter on the contraction process, a certain shrinkage in MV is the invariable concomitant of a cyclical depression—it will certainly increase unemployment and prolong contraction if wages are not allowed to fall. If a contraction in a country is dictated by its international situation, the situation is still clearer. Wages and prices must be allowed to fall if a rise in unemployment and a fall in output are to be prevented. (It is another question whether, and under what circumstances, it is possible and advisable to cut short this process of adjustment by currency devaluation.)
>
> On the other hand, where a country need not consider its international economic situation and has a free hand as to its monetary policy, it is comparatively easy to make sure that the possible deflationary influences of wage reductions are eliminated while at the same time the expansionary influences are not hampered. All that is required is to combine a policy of wage reduction with expansionary measures such as public works financed by inflationary methods. The effect will be to forestall any decrease in total wage disbursements, and consequently in the demand for consumers' goods, which might otherwise result from the wage reduction.
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> What has been said of wages is equally true of other prices which are kept up by monopolistic manipulation or State intervention.

Duke University JOSEPH J. SPENGLER

Outlines of Economics. 6th Edition. By Richard T. Ely and Ralph H. Hess. New York: Macmillan Co., 1937. Pp. xviii, 1064, $3.50.

Originally published in 1893, *Ely's Outlines of Economics* has now reached the 6th edition. Comparison with the 1930 revision reveals a greatly improved format and 200 additional pages. Changing emphasis is indicated by new chapters on "Normal Price Principles," "Monopoly Price and Other Value Reservations," "The New Industrial Revolution" and "Labor Problems and Practice—Legislative and Judicial Recognition." Ralph H. Hess has replaced Thomas S. Adams, Max O. Lorenz and Allyn A. Young as co-authors.

"It has been the experience of the writers that whatever the relative degree of emphasis put upon lectures, class-room discussions, and assigned problem work of different sorts, mastery by the student of one book on general economics, or at least so much of it as treats of fundamental economic principles, is an essential part of every introductory course in the subject" (p. 1039). Most teachers of economics realize the importance of giving the student clear cut concepts of basic principles. One can hardly expect the beginner to act as an arbiter of disputed theories. Mastery of ideas is the unescapable preliminary step to comparison. The danger of vague and uncertain concepts is especially real in a one semester course for which this book has been considered particularly adapted.

Basic definitions, production, value and price, money and banking, and distribution appear to contain the fundamentals of any introductory course in economics: and it is to these sections that we shall turn our attention. Strange as it may seem, this edition does not contain a clear cut definition of wealth. "The distinguishing characteristic of an article of wealth is thus its combined attributes of scarcity and utility" (p. 97). While goods are spoken of as "commodities and services" (p. 96), the definition of consumption speaks of the use of "economic goods and personal services" (p. 133). Capital is defined as "that part of wealth which is used in the future production of goods," and the comment is made that "land thus satisfies the definition of capital as given above" (p. 11).

Turning to value one notes that "effective demand is sometimes defined as desire coupled with ability to pay" (p. 164). The demand schedule "definitely represents the quantities of a given good which will be sold at each of all possible prices" (p. 166). A contrast is made between normal and monopoly price; but the whole modern controversy over imperfect competition is rather summarily disposed of by the statement that "competition has been shifted away from price by the 'differentiation of products and sales effort' " (p. 206). However, "the monopoly feature in these cases is more apparent than real. Under the surface the forces of supply and demand exercise a real control, not with so much precision as in the realm of free competition, but with quite as much power" (p. 207).

The treatment of money and banking combines excellent factual material with a rather incomprehensible failure to stress the process of creation and the control of the volume of bank credit. The student will have a rather vague understanding of the mechanism whereby every dollar of Federal Reserve Bank credit may support 10 of bank credit (p. 264). The chapter on "Banking in the United States" gives a satisfactory explanation of modern developments.

Rent is always the difficult problem in distribution. While earlier editions kept to the Ricardian theory, the 5th and 6th emphasize the idea that "the income derived from land depends to a great deal upon what has been put into the land, so that the tendency is now to regard land in the economic sense, as largely produced and, to that extent, as one kind of capital" (p. 449). The presentation of wages as a "price paid for the particular kinds of service" and falling "within the general laws of supply and demand" (p. 423) will be appreciated by those who have tried to explain to beginners "the discounted marginal productivity" theory.

We must not expect an outline to exhaust the possibilities of the whole field of economics. The confusion of "elements" with "economic theory" is one very real cause of the unsatisfactory state of many of our introductory courses. We must have a text that lays foundations for further formal instruction or general reading. The use of Ely will to a great extent depend upon the

teacher. Its long life is an eloquent testimony to its essential worth. Its appeal will be to those economists who believe that the introductory course should in the main present a rather liberal-conservative approach to our field of study.

University of Virginia D. Clark Hyde

Social Control of Industry. By G. M. Modlin and A. MacD. McIsaacs. Boston: Little, Brown & Co., 1938. Pp. x, 499. $1.40.

Money, Credit and Finance. By G. F. Luthringer, L. V. Chandler and D. C. Cline. Boston: Little, Brown & Co., 1938. Pp. x, 379. $1.40.

Population, Resources and Trade. By B. N. Dell and G. F. Luthringer. Boston: Little, Brown & Co., 1938. Pp. x, 291. $1.20.

Labor and Social Organization. By D. A. McCabe and R. A. Lester. Boston: Little, Brown & Co., 1938. Pp. vii, 374. $1.20.

These four little textbooks represent a notable addition to the resources of college teachers of economics. They are designed, and are primarily useful, as parts of a complete textual offering in economic principles. Yet they are as well valuable as separate volumes dealing with limited fields of specialization and relating the discussion of the field admirably to other aspects of the economic system. The complete series of six books, of which these volumes are a part, has been prepared by members of the Department of Economics and Social Institutions of Princeton University. The first and second volumes of this series dealt with the evolution of the present-day economy and the nature and techniques of economic analysis. The four volumes here presented complete the offering.

Probably the most distinctive contribution this series makes is contained in the third volume. This volume deals with the organization and operation of modern industry and especially with the development of governmental control of business. This volume treats the forms of business organization, their financing and the nature of the marketing system. Then in turn it describes the economic and social problems arising in the field of monopolies, in the utilization of natural resources, and the transportation and public utility industries. In each field the efforts of government to control the industry in the public interest and the reasons for

extending such control are clearly depicted. The distinctiveness of this volume lies in its effort to give the student an understanding of social responsibility. A clear depiction, for even the beginning student of economics, of society as a whole's stake in the operations of each industry is presented.

The fourth volume is designed to describe current problems of money, credit and finance. It seeks as well to shed light on the economic and social processes in these fields. In turn these authors depict the functions, significance and kinds of money. Next, attention is devoted to the nature and uses of credit and to the structure of the banking system. The authors then return to a discussion, in intelligible terms, of monetary theory. Finally, more than a third of the volume is devoted to a discussion of the public economy, the taxes that are used for its support and the nature and use of public credit.

The first half of the fifth volume consists of a descriptive discussion of the growth and distribution of population and resources. This is a factual and realistic picturization of the raw materials of our national economy—men and resources. It depicts the growth and distribution of population here and abroad and, as well, the social and economic significance of current population changes. The second half of the volume deals in traditional fashion with a more customarily included subject, international trade and commercial policy. The treatment is neither novel nor brilliant; it proceeds from a discussion of the economic interdependence of nations and concludes with a critical analysis of prevailing national commercial policies.

Labor organization, labor legislation, social security and social reorganization are the topics covered in the final volume. The subject matter does not differ from that contained in earlier textbooks in this field. Yet again the authors make a real contribution by enabling the student to appreciate "how the principles of economic theory and of public finance apply in such matters as labor legislation, unemployment relief, social security, and social reform." Again the authors indicate not only the nature of labor organization and of labor legislation but emphasize as well the social purpose and contribution to the public interest of such organization and such legislation.

All in all these six volumes represent a very important offering

to the teaching of elementary economics. They will serve admirably to acquaint students with the general nature of economic science. They familiarize the student with the techniques of analysis used by proficient craftsmen in the science. They relate the discipline of economics to the whole body of knowledge rather than offer the student a narrow, segregated category of economic learning. They serve better than any other available text material to impress the student with the social significance of economic factors and institutions. Together these volumes are distinctive among other works in this field and will probably claim wide usage.

Social Security Board,
Washington, D. C.

JOHN J. CORSON

A Problem Approach to Economics. By Willard E. Atkins and James D. Magee. New York: Harper & Brothers, 1937. Pp. 572. $2.75.

The writing of textbooks in economics these days is as hazardous an occupation as the writing of a political geography of Europe. Nevertheless the teaching of economics must go on. This book by Professors Atkins and Magee is an excellent textbook for the beginning student and does not undertake a discussion of the more complicated theories in economics.

The arrangement of the book is very satisfactory for a text of its kind. It is divided into five parts. After the introductory part, the authors begin with the discussion of financial organization of society, followed by types of businesses, the workers and the consumers, the problems of social policy, with the last part devoted to a discussion of economic change. Arrangement of the material in the chapter is well suited to teaching. At the beginning of each chapter its purposes are outlined. This is an excellent aid to the student. At the end of each chapter are well chosen questions and topics for discussion with references for further reading. There are ample illustrations throughout the book and the style is pleasing to the reader.

This reviewer hopes, however, that the authors are more accurate in the discussion of the other industries than they are of the petroleum industry; although the error is a minor one it has no place in economics or in geology. The reference is to page 169 on

the production of oil. The authors say: "Oil is found in large underground lakes or pools which are usually under pressure from natural gas which is found with the oil." Oil is not found in underground lakes or pools but is found in porous formations of the earth. It is found in sand and soft, porous rocks. Of course the laity loosely refer to it as an oil pool, but loose references of this kind have no place in a textbook.

As is stated by the publishers, the book offers no conventional treatment of classical economics. It interprets economics in its broadest sense as a social science. This book is recommended to teachers of economics who are looking for an introductory text in economics, especially where their classes are composed of young students.

University of Oklahoma LEONARD LOGAN

The Case For Democracy and Its Meaning in Modern Life. By Ordway Tead. With a Reading List on Democracy by Benson Y. Landis. New York: Association Press, 1938. Pp. x, 120. $1.25.

This is a straightforward analysis of the meaning of democracy and of its practical implications in contemporary economic affairs. Democracy is interpreted broadly as "at once an ideal, a process and a method, all of which look to the cherishing of the unique worthfulness of each individual as a potentially significant personality." The author holds that the validity of democracy in human society is "unmistakable, ineradicable, and permanent . . . part of an age-long upthrust of human aspiration." Material well-being is essential to the development of personality, and liberty is the power of securing the means necessary to attain it. Furthermore, Christianity and democracy are held to stem from the same source, to envisage kindred ideals and to imply kindred ways of realizing those ideals. Because it denies basic liberties to a large portion of the population, the contemporary economic order with its concentration of property and income and its pursuit of self-interest is diametrically at odds with the claims of both democracy and Christianity.

To break this impasse Mr. Tead believes that a conflict along the lines of a bitter class struggle is unnecessary. Rather he has faith that the spirit of democracy and of Christianity will so permeate

society that individuals will renounce self-interest and assume social responsibility, thus permitting the business structure to operate more satisfactorily of its own accord, and also permitting the state more and more responsibility for organizing economic activity to promote the general welfare.

This practice of democracy in business should be reflected in personnel management, in the encouragement of collective bargaining through "vocational organizations," and in the development of self-government for industries through "little N.R.A.'s." It must be further reflected in a more socially just division of the output, and in the more efficient organization of the production processes so that the total output may be larger.

The democratization of industry is not only Christian but probably "good business," but where business men do not voluntarily carry it forward the power of government should be used. It is likely that "economic planning" must be resorted to more and more because "the criterion of private profit-making is a highly hazardous one for a system to be based upon which is as complex as the present world-flung economy." Certainly the criterion of having to make a profit should not be permitted to hold in check the full utilization of plant capacity.

In order to move in the direction of a better distribution of in-income, Mr. Tead suggests an extension of the social security program and a greater use of the taxing power to obtain income to be spent for the general welfare. He believes that a further extension of government ownership will probably prove necessary to the greater accomplishment of democratic aims. He hopes also for a growth of consumer cooperation.

In his analysis of our immediate economic difficulties and of the measures to be taken to attack them, Mr. Tead is, as he says, "pluralistic." While he believes "the points of tension and of conflict in interest in America are real," nevertheless, "there is a unifying principle that can be invoked," namely, the aim of realizing a democracy. He recognizes that "goodwill alone is not enough," and consequently that "we need intelligent and inventive associated action in many fields, governmental and voluntary structures, and agencies of operation that use democracy as their method, and valiant leadership that is clear visioned, bold,

and filled with democratic faith." But the further democratizing of our society "means devotion, commitment, struggle, sacrifice."

While the case *for* democracy is not proved in this book, and indeed it cannot be definitely proved to the satisfaction of everyone in any book, the reviewer feels that Mr. Tead's interpretation of the meaning of democracy and of its implications when applied to our present economy are as near to the truth as that elusive concept can be approached, and furthermore, that his recommendations for individual and group action display an understanding of the social processes and an intelligent appraisal of factors in the present situation. If only Mr. Tead's views and recommendations were widely accepted, the impasse between ideals and actualities in the economic order might be broken. But democracy like Christianity is not widely practiced, and also like Christianity many incongruous conditions and institutions are defended in its name.

University of North Carolina J. G. Evans

Business and the Robinson-Patman Law. Edited by Benjamin Werne. New York: Oxford University Press, 1938. Pp. 282, 8 charts. $2.50.

The Robinson-Patman Act prohibits price discrimination which results in unfair competition between distributors. In a field characterized by innumerable price variations (e.g. for grade and quality, quantity, services and allowances, methods of distribution and types of distributor) based on tradition, bargaining power, and competitive conditions, analysis of the act and its effects is unavoidably complex. With many costs joint and common (cost criteria, other than arbitrary, thereby precluded), adequate records often unavailable, and practices peculiar to product characteristics, the problem of clear and forceful exposition, confronting Mr. Werne, was grave. In the symposium, he chose a form of presentation which is the most difficult, if it is to be effective, and the most annoying if it is made easy. The whole must be integrated both by prior allocation of tasks and by subsequent editorial selection. Mr. Werne seems to have followed the way of least effort. Here is a collection of articles, some excellent and penetrating (the best are among the six abstracted from published sources), some superficial and discursive, some dull. Among the

16 contributions (seven by lawyers, five by business men, four by economists), there is material for a good theoretical and practical analysis of the act but the reader must make the synthesis himself. Despite the fairly logical arrangement into six parts—Historical Background, Economic Aspects, Legal Analysis, Distribution, Marketing and Pioneer Cases—few essays fit neatly into these categories but traverse the entire gamut of the headings. Repetition is characteristic and, without editorial winnowing, confusion is inevitable. Finally, is the saving in printing expense commensurate with the annoyance caused by placing all notes in an appendix?

From the nature of the subject it is not possible even to summarize the argument in a review. It appears, however, that (1) the act, framed perhaps uneconomically to favor the small distributor, is likely to have a contrary effect; (2) it has been used to ban practices for the elimination of which manufacturers needed only an excuse without causing fundamental changes; (3) some measure of confidence, after the first consternation, has been reestablished by the Federal Trade Commission which has interpreted the act in the light of the stubborn realities of business practice.

University of Virginia M. G. DE CHAZEAU

A History of the Economic and Social Progress of the American People. By Walter W. Jennings. Cincinnati: South-Western Publishing Co., 1937. Pp. xiii, 811. $3.50.

This account of American economic development uses the "topical method," treating most phases of American economic development from early beginnings down to the contemporary scene in a single chapter. Topics are discussed in the following order: exploration and settlement, territorial expansion, population growth, immigration, social conditions, labor, conservation of human life, agriculture, animal life on the farm, manufactures, tariff policy, growing size of business units, municipal utilities, lumbering, mining, merchant marine and foreign commerce, fishing and trapping, transportation facilities, domestic commerce, money and banking, and lastly, a short summary by periods. Such a topical arrangement makes it possible to consider contemporary economic problems with their respective historical backgrounds

continuously throughout a course of study. For those who prefer this approach as a stimulus to student interest this book should prove particularly useful as a text; it should also be useful to others as a general reference work in the preparation of papers on selected topics and for supplementary reading. Forty-nine assignments are suggested for the 20 chapters. A set of questions for class discussion, and a list of topics for reports or papers are provided for each assignment. In style and in the selection and presentation of materials the book appears very teachable and well adapted to the first course in American economic history for which it is obviously intended. Factual and descriptive material is presented in an especially vivid and interesting fashion.

Occasionally Professor Jennings injects a personal view which will be considered by some a "horse-back" judgment. For example, in discussing the problem of adjusting production to consumption he remarks: "Notable attempts have been made to stabilize production in different lines by withholding productive capacity from the markets as in various "trust" organizations and also by withholding at least temporarily goods already produced. Crop restriction under the AAA is perhaps the best-known example of this limitation. If a people are sufficiently anxious for stabilization to approve an economic and political dictatorship which allows one man to tell them what can be produced and what must be consumed, an equilibrium between production and consumption may be obtained. But that price is too heavy for any liberty-loving people to pay." On the whole, however, the point of view in historical interpretation must be labeled progressive and realistic.

University of North Carolina J. G. Evans

The South: Its Economic-Geographic Development. By A. E. Parkins. New York: John Wiley and Sons, 1938. Pp. ix, 528. $4.00.

It is generally remarked that no area has been so seriously studied from the regional viewpoint as the American South. To a sizeable list of volumes, Peabody's distinguished geographer adds a fact-packed book, not altogether confined to the two disciplines of geography and economics. In a book equally valuable for the lay reader or the student is presented much of the regional setting,

the historical antecedents, and the present status of civilization in the region. In some respects not as unified or as well organized as the author's previous papers on the antebellum South and Southern agriculture, the book is solid and sound workmanship in keeping with the magnitude of the task.

Some critics no doubt will regret the author's acceptance of the three conventional census divisions as identical with the South while others will wish he had given us more interpretations and contributions to theory. The book remains largely on the descriptive level, making little use of theory or concepts such as regionalism, colonial economy, the frontier, or Zimmermann's resource hierarchy. The integration of Parkins' immense store of knowledge of the South with, say, the comparative regional analysis of Odum's *Southern Regions of the United States*, the functional resource analysis of Zimmermann's *World Resources and Industries*, and the location and distributional analysis of Goodrich's *Migration and Economic Opportunity* would have given us a veritable masterpiece, a book to end books on the South—at least until the appearance of the next census. Knowledge of the South to say nothing of knowledge of the social sciences will have to be much more widespread, however, before any writer could present such a book to the reading public with the hope that it would be understood.

There is here the solid meat of scholarship based on field studies, wide reading and 50,000 miles of travel in the South. Sections on the natural environment present resources of land, soils, waters, minerals, flora, fauna and their changes at the hands of man. The peopling of the South is presented in close integration with the development of transportation—pioneer highways, inland and inter-coastal waterways, and railways. The rank of the region in agriculture, the natural areas of various types of farming and their historical development are presented in chapters on the antebellum and postbellum agrarian South. Seven chapters on manufacturing discuss minerals, water power development, timber, textiles, and much other relevant materials. A most interesting chapter on evolution of size and function of cities is followed by another on the possibilities for the future in the South. Throughout are interspersed significant maps and photographs from the author's own collection.

In the main the author is pessimistic about Southern agriculture and governmental efforts of all kinds, optimistic about industry and the growth of cities. The industrial structure that the South is building will, Parkins thinks, be much more secure than that of New England because all the essentials of an advanced industrial order are in greater abundance and also in regional proximity. Cheerful about the future of industry, Parkins is not so cheerful about regional planning and governmental activity, outside of erosion control and harbor works. There is in the book little indication of the extra-regional controls exercised over the South and one gathers that Parkins deplores the effects of the TVA much more than those of the tariff or Wall Street. Nowhere, however, does the author allow opinions to march ahead of massed arrays of information. The book will find good use in the hands of economists, geographers, historians and the general reader.

University of North Carolina RUPERT B. VANCE

A History of the Modern and Contemporary Far East. By Paul Hibbert Clyde. New York: Prentice-Hall, 1937. Pp. xix, 858. $6.00.

While this books is entitled in the comprehensive way indicated above it is much more limited in scope. Its sub-title, "A Survey of Western Contacts with Eastern Asia During the Nineteenth and Twentieth Centuries," provides a more accurate description, but even this is too broad. The social and economic relations between the two sections of the world are mentioned only in sketchy fashion in connection with what might much better be called "A Survey of Modern and Contemporary International Political Relations in the Far East." This treatment is full and much attention is given to the period since the World War. The book contains 858 pages and a clear style on the part of the author, and a good job on the part of the printer makes it a comfortable volume with which to associate. There are 43 chapters, and for students who are interested essentially in the political developments the accounts are unusually complete. These deal, however, with the more narrowly political conditions than with the longer range historical, economic, social, and intellectual ramifications.

The outstanding characteristic of the book for many readers will be a rather decided pro-Japanese bias which at times becomes try-

ing. There are almost no complimentary remarks about the acts of Chinese or occidental public men as against very frequent favorable allusions to the representatives of Japan. The following are a few samples: "To this offer Japan on November 17, 1894, replies significantly (as the years 1931 to 1932 were later to show) that while she did not propose to push her victories beyond reasonable limits, 'those limits cannot, however, be said to have been reached until China finds herself in a position to approach Japan directly on the subject of peace' " (pp. 301–302). The phrase "reasonable limits" has since proved to be somewhat elastic, while "approach Japan directly" has earned its niche in history.

Of the outbreak of the Chino-Japanese war, we read (p. 299): "The issue was Korea: tributary or free." At the end of the war (p. 304): "(Japan's) policy of independence and reform in Korea had been vindicated." Subsequent events seem to indicate that the issue was rather: "Korea: Tributary to China or to Japan," and the result not "independence" but "transferred dependence."

However, this ability of the author to see the Japanese viewpoint gives the book at the same time a certain value, especially in the treatment of the post-war issues, which are unusually full. Here the book is perhaps almost alone among non-Japanese presentations in giving something of the Japanese pre-suppositions and viewpoint. This is especially needed in the United States at the present time when in spite of the most wide-spread ignorance of the historical, economic and political forces at work there is as usual the utmost readiness to take sides. The present reviewer feels, however, that the author proves rather too much, and that the treatment would have been more valuable had it stressed somewhat less the personal and ethical aspects of diplomacy and somewhat more the questions of national interest in the presence of "modern and contemporary" economic, political, and military evolution.

University of North Carolina D. H. Buchanan

The Dollar. By John Donaldson. New York: Oxford University Press, 1937. Pp. xix, 271. $3.75.

The monetary system of the United States has been changed so completely in the past five years that many studies will be required

before the nature and the effects of these changes are fully understood. Professor Donaldson in this book is primarily interested in providing us with a perspective of the new monetary system in its national and international aspects.

The volume contains a fairly full summary of the monetary policies and acts of the present administration. The author describes the new monetary system as a machine "with greatly increased features for flexible control of both external and internal processes. With throttles and brakes, with high, low, and reverse gears, it differed considerably from the old monetary horse-and-buggy contraption." But he is doubtful whether this machine has been driven properly in the past few years.

In his analysis of the internal effects of the new monetary policies Dr. Donaldson emphasizes the creation of a large volume of credit which has become increasingly difficult to utilize for private capital investment. It is not quite clear why he believes that the large volume of government issues has denied business access to the capital market. The funds were borrowed at a time when the demand from business men was deficient, so that government borrowing at that time did not deprive industrial borrowers in the same period. The borrowed funds have been expended by the government. The money must be in the possession either of business men who can use it directly for private investment, or it is held by savings institutions and individual savers who could make the money available for private investment. Funds for lending do not come from a limited stock of money, but from the flow of money income.

With respect to the international effects of the new monetary system, the author feels that some degree of success has been attained. He holds that "the external results appear to have approximated the objectives sought somewhat more than have the internal." An unusually full statistical appendix provides the reader with important data for ready reference.

University of North Carolina E. M. Bernstein

Paris as a Fiancial Center. By Margaret B. Myers. New York: Columbia University Press, 1936. Pp. xii, 192. $3.00.

We have become so accustomed to regarding our financial

organization as somehow a natural type, that any departure from it is immediately characterized as artificial and unsound. It is precisely for this reason that a study such as this is extremely useful. The differences in the organization and behavior of the money markets in New York and Paris are so great as to dispel the illusion that there is one proper type of financial organization.

The study is largely devoted to a description and analysis of the major factors in the money markets of Paris as they have been developed since the war. Chapters are devoted to the Bank of France, the *Caisse des Dépôts et Consignations* (the depositary for savings, social insurance funds, special types of trust funds, and moneys in litigation), the Treasury, the commercial banks, the investment market, and the short-term money market.

The study gives us a comprehensive picture of an important financial center quite different from the more familiar money markets of New York and London. It is only by realizing the peculiar significance of the Treasury and the *Caisse des Dépôts et Consignations* that it is possible to understand the behavior of the French monetary system in recent years. In fact, the developments in this country have tended to evolve similar forces in our money markets. Thus, the operations of the Treasury, the Exchange Stabilization Fund, and the various government agencies for holding and lending funds have probably changed the character of our money markets in recent years and brought them into closer resemblance to those of France.

The study contains numerous tables that will prove helpful to the reader.

University of North Carolina E. M. Bernstein

Modern Banking. By Rollin G. Thomas. New York: Prentice-Hall, 1937. Pp. xvi, 474. $3.80.

The above work adds another introductory textbook to the long list on banking. The justification for this addition to a crowded field seems to come from a slightly different presentation of material both as to point of view and organization.

The author states his purpose as being twofold: First, to provide the student with elementary and basic information necessary to understand the banker-customer relation; and second, to give some

knowledge of contemporary banking institutions and practices. In keeping with the purpose, the approach is more descriptive, with discussions of principles and policies interspersed, than is customarily the case. Nearly half of the volume is given to an analysis of the instruments and operation of commercial banks. The treatment is predominantly in terms of current practices. With the exception of three chapters treating briefly of the history of banking in the United States, nowhere is the historical or chronological approach made. Even the numerous events and changes of policy occurring since 1930 are merged in the general discussion rather than being treated separately or chronologically.

Supplementary to the descriptive approach, are discussions of many questions of policy and practice. Some sections are among the best in current introductory banking literature. The style of writing is easy, and the conclusions in the opinion of the present writer are sound.

As a textbook, and in view of the author's avowed purpose, the work is open to some criticism. According to one's view, it has the merit or handicap of a discussion of banking entirely apart from monetary theory. No mention is made of monetary theory or practice except very incidentally, but some knowledge of such is pretty definitely assumed at times.

Certain principles of banking usually regarded as fundamental are also presented very incidentally. The basic principle of commercial banking is nowhere treated as a definite and concise unit. It is presented, to an extent haphazardly, in the discussions of the operative functions of a commercial bank. Chapter II bears the heading, "The Nature of a Bank," but the material included consists of a discussion of legal organization (corporate form) and the presentation of the complex balance sheet of a large bank with brief definitions of the items thereon. The principles of central banking are likewise presented rather indirectly.

More surprising, in view of the author's emphasis on customer-bank relations, is the fact that little is said of the mechanism for selection and restriction of loans and discounts as a means of adjusting the situation of a bank or maintaining a balanced portfolio. The mechanism of credit control is adequately treated as between the central and the individual bank, but little analysis is

made of the execution of policy as between the individual bank and its customers. There is also no discussion of the factors which the customer should consider in selecting and using a bank.

Guilford College W. O. SUITER

The Administration of Federal Grants To States. By V. O. Key, Jr. Chicago: Public Administration Service, 1937. Pp. xviii, 388. $3.75.

State and Federal Grants-In-Aid. By Henry J. Bittermann. New York: Mentzer, Bush & Co., 1938. Pp. x, 550. $4.00.

The subject of grants-in-aid in the United States has long been in need of adequate study, description, and analysis. The pioneer work of Professor Austin Macdonald, which appeared in 1928, was, admittedly, not definitive. Much has transpired in the past ten years to justify the appearance of new studies in the field.

The emphasis of Dr. Key's work is upon the *administration* of the federal grants. Only incidentally has he considered the financial or economic aspects of the grant-in-aid. The economic theory of the grant and foreign experience with it are not covered. Financed by the Social Science Research Council, Dr. Key and his assistants spent a year in the study of the documentary evidence and in interviewing officials in Washington and in over half of the states. The volume gives, therefore, the results of an intensive field study of one aspect of the grant-in-aid—the administration of federal grants to the states.

The administrative subjects studied are: control over state plans and budgets, federal inspection, audit, reports, the withdrawal of federal aid, and federal control over state organizational structure and personnel. Chapters are included on the rôle of associations and conferences in determining administrative policy, the nature of the federal organization to administer grants, and the problem of the division of costs between the state and the federal governments, and between the state and its local governments spending the federal funds.

The volume is outstanding because it springs, in large part, from the reality of first-hand experience. Dr. Key's analysis shows an acute perception of the issues involved, including personal and partisan politics and their relationship to public administration.

The study is couched, for the most part, in the language and concepts of the political scientist.

It is to be regretted that the plan of the study did not include the grants to the states administered by the Federal Emergency Administration of Public Works. In view of recent events, notably the spend-lend program, these grants may have a much more important place in public administration than seemed to be the case when this study was conceived.

The greatest criticism that this reviewer can level at the volume is the very small type employed. It is to be hoped that the forthcoming volumes in this series will be printed with a type of sufficient size to permit easy reading, particularly in the footnotes.

Professor Bittermann's study is much broader than that of Dr. Key's. Written originally as a doctoral dissertation in economics at the University of Chicago, and since revised and brought up to date, it attempts a comprehensive treatment of the grant-in-aid in the United States. Its contents embrace state as well as federal grants-in-aid, economic as well as administrative aspects of the grant, and general foreign as well as detailed domestic experience. Considerable space is devoted to the history of grants made by the various states to their local governments as well as federal grants, and to the relation of the revenue system to the grant-in-aid in the nation and in the states. It is written from the viewpoint of the professional economist, and contains no fewer than 60 tables (as against Dr. Key's 16 tables) setting forth financial data.

Professor Bittermann says, "Since this study is based very largely on printed materials its conclusions must be considered as prolegomena subject to such modifications as more intensive (field) studies might indicate." It is unfortunate that Dr. Key's study was not available for consideration in Professor Bittermann's volume. No aspect of the grant-in-aid receives exhaustive treatment because of the broad scope of this work and the research techniques employed.

Professor Bittermann has done students of economics and political science a service in the issuance of a one-volume survey of the grant-in-aid in the United States, based on the printed literature on the subject. He has frankly noted, from time to time, great gaps in our knowledge of the subject. Here is a challenge to

students, already accepted by Dr. Key, to make penetrating studies of various phases of this important subject based not merely on material already in print and easily available, but also on fugitive materials and existing practice discoverable only by field surveys.

Our knowledge of the grant-in-aid has been vastly increased with the appearance of these two well documented studies. It is to be hoped that they will stimulate further research in the field.

University of North Carolina CHARLTON F. CHUTE

A Financial History of Maine. By Fred Eugene Jewett. New York: Columbia University Press, 1937. Pp. 235. $3.25.

This Columbia University study (Number 432) is a "detailed account of the financial history of the state of Maine." Part I presents a general account of the finances of the state from 1820 to 1936, while Part II is concerned with selected studies relating to the sale of public lands, the property tax, the taxation of banks and public utilities, state trust funds, and financial reorganization.

In his preface the author states that his study was made "in the hope that such a history of a typical New England state might aid in formulating plans for the future by making available the lessons of the past." A review of Maine's financial history, however, shows that there is little by which we may profit. Up to 1900 the state relied for its revenues mainly upon the property tax and taxes upon a few types of corporations such as railroads and banks. After 1920 state income was supplemented with revenue from the gasoline tax, the sale of motor vehicle licenses, and a few miscellaneous sources.

A crisis was reached in 1936 when falling revenues and mounting expenditures seemed to call for some fundamental changes in the states' century-old, archaic tax system. The need for additional revenue to cover proposed social security expenditures apparently requires the setting up of new taxes, since the state has reached a point where further borrowing would be questionable financial policy. Thus far, however, Maine has had recourse to neither a sales tax nor an income tax.

In general, the author deviates but little from the path of scholarly description in his analysis of Maine's financial evolution.

Some few critical comments are made with reference to the special topics analyzed in Part II. Although the author refers on page 78 to the population of Maine as "an already overtaxed people" the basis for this judgment is not shown. No attempt is made to relate the tax burden to the state's income and wealth, nor is there sufficient comparative analysis to enable the reader to see how Maine's financial situation compares with that of other states. However, the author's primary concern, as he states in his preface, was with a presentation of the details of a financial picture. As a piece of historical investigation, the work is a scholarly contribution to American financial history.

University of Maryland ALLAN G. GRUCHY

Investments and Investment Policy. By Floyd F. Burtchett. New York: Longmans, Green & Co., 1938. Pp. vii, 821. $4.00.

This is one of the best general works on investments and will doubtless establish itself as a leading text in its field. Investment is conceived as "a division of theoretical economics" (p. 14), as "less of stocks and bonds and more of lands, buildings, insurance policies and annuities;—less of accounting statistics and more of economic principles" (p. 5). In fact, the book's greatest weakness is probably that it adheres to this point of view so rigorously that almost no attention is given to analysis of financial statements.

Part II, "Investment Contracts of Private Enterprise", suffers from scattering attention over too wide a variety of contracts rather than concentrating on the major types. Part III, "Investment Characteristics of the Major Industries," is disappointing because of the failure of the author to draw on his abundant store of illustrative material.

After providing for an appropriate amount of insurance the individual is advised to acquire a backlog which "will usually consist of four elements: (1) *high-class bonds*, (2) *high grade preferred shares*, (3) *well seasoned common shares*, and (4) *cash in a savings account*. The amount of such backlog, *in toto*, should probably equal a full year's income; the suggestion is that approximately one-fourth of an annual income should exist in each form" (p. 526). The investment plan is completed by the acquisition of a

general investment portfolio. It is here that "such items as age, health, economic status, personal likes and dislikes, etc., can be permitted free rein."

Preferred stock is appraised more favorably than it is by most authorities (p. 132) and the same is true of foreign securities for both individuals (p. 523) and investment trusts (p. 378). Obligations of central governments are held to be over-rated. "Neither the government of the United States nor that of any other nation, in the light of historical evidence nor when judged by contemporary trends, can be ranked as scrupulously honest nor meticulously exacting in meeting financial obligations" (p. 455). "The citizens of any country buy its issues largely as a matter of patriotic duty and but partly because of the actual security involved" (p. 457).

Errors of fact are rare. However, the assertion that insurance companies will generally not insure an individual for more than five to seven times his current income (p. 351) is questionable and the statement that "small margin accounts (under $500) are not now permitted by the Securities and Exchange Commission" (p. 641) is in error.

Southwestern RALPH C. HON

Personal Income Taxation. By Henry C. Simons. Chicago: University of Chicago Press, 1938. Pp. xii, 238. $2.00.

Like the same author's *A Positive Program for Laissez Faire: Some Proposals for a Liberal Economic Policy* and properly understood as a phase of the general economic policy recommended in the earlier work (p. 2), Professor Simons' book is frankly propagandist in tone. This fact, however, does not prevent the incorporation of astute economic analysis almost at every step of the argument.

The title is a misnomer, as the author himself points out (p. 5); however, personal income taxation *is* the point of emphasis, because it is here that, in Simons' view, most insistent thinking is essential if sound tax policy is to be defined in relation to present practices. For example, it is simple to propose (p. 220): "Save for gasoline taxes and certain levies desirable for regulatory purposes, all excises, tariff duties, license taxes, and other miscellaneous regressive levies should be eliminated from both federal and

state tax systems." On the other hand, it requires considerable analysis and astute marshalling of facts to make a strong case for such personal income tax policies as elimination of all exemptions of receipts of any kind (save "earned income in kind" and minor gifts)—especially interest on governmental obligations; inclusion of income in kind from durable consumers' capital; embracing in taxable income all gifts, inheritances, and bequests (with sufficient exemption of minor gifts—e.g., Christmas presents—to be practical) the year received; making value at time of receipt the basis for capital gains, which should be fully included; and making quinquennial refunds equal to the amount by which total tax exceeds by more than 10 per cent the aggregate "which he would have paid if his income each year had been exactly one-fifth of his total taxable income for the five year period"—with a possible ignoring of gifts, inheritances, and bequests. (It appears he really means he would adjust all five years at once, then start anew with a clean slate.) He adds specific proposals that personal exemptions be $1,000 and $2,000 and that the normal personal income tax rate be approximately 20 per cent.

Despite the substitution at some points (e.g., pp. 81, 171, 203 etc.) of venomous attack for constructive analysis and despite the fact that Simons rather consistently ignores considerations of administrative feasibility and practical political strategy, the argument is admirably balanced, distinctly convincing, and constructively helpful in dealing with some of our most fundamental problems of the economic policy involved in alternative modes of taxation. Moreover, unlike most theoretical students of tax policy, Simons presents his view *interestingly*.

University of Kentucky JAMES W. MARTIN

The Preparation of Reports. Revised edition. By Ray Palmer Baker and Almonte C. Howell. New York: Ronald Press Co., 1938. Pp. xv, 578. $4.00.

The report is a medium of expression so little esteemed as literature that persons often employ it without paying it the deference of previous study and practice. The results of this casual attitude are commonly unfortunate. Sometimes the dramatic nature of the material handled, or the enthusiasm of the author for his

subject, will carry the report, but even these exceptions would be the better for practiced preparation. There may be no more exciting objective than to report the results of a routine test applied to a hundred different mechanical units, but the wish to set forth with clarity the conditions of the test and the unit behavior creates a problem the author can solve only through the disciplined functioning of his personal equipment. The character and training of that equipment is the true concern of the authors of *The Preparation of Reports*.

This revision of the 1924 edition has retained the aims of the first edition: To supply a text that will equip the potential author with a clear concept of the types of reports, the organization of each type, and the values of various rhetorical and illustrative techniques. The need for the revised edition has grown with the greater dependence of business and industry, scientific fields, and government on the reporting method, a dependence forced by the increased complexity of the social-economic structure. The presence in the new edition of examples from the sphere of economics and business and the prominence of reports by government agencies reflect the broadened scope of the reporting field and demonstrate the endeavor of the authors to meet modern needs.

The measure of effectiveness of the text may be determined in answering the question of how well the authors have presented to the reader the picture of the modern report and the methods and materials that go into its making. In general, the revised edition is a successful work. The material is representative, the analysis sound and well pointed. There is easily-followed guidance to the solution of reporting problems. The engineer, economist, field and laboratory worker in science, public servant, and business and industrial administrator can use it with benefit. It is, of course, carefully designed for class-room needs.

The faults of the book are principally two, but responsibility for both is not necessarily the authors'. They recognize that an important characteristic of many modern reports is emphasis on visual impression. They present and describe examples. It is, perhaps, a publisher-responsibility that this text is not in itself a more effective example of report presentation. The second fault is in the treatment of style in the sense of the mechanics of prose.

The authors might have given more consideration to the growing demand for able "translators" of technical material, who can explain it to the intelligent layman with interest, without technicalities and without distortion. Certainly in many fields this is a necessary step in reporting—and no reference to propaganda is intended. The fields where this type of writing is essential are determinable, examples are plentiful, and their inclusion in the text would have added to its utility.

Both criticisms, however, may be unjust. Both can be argued to be outside the province of this particular book and to be subjects, perhaps, for supplementary study by the reader. As it is, he has available a good text on the preparation of reports.

National Resources Committee,
Washington, D. C.

LLOYD GEORGE

STATE NEWS

ALABAMA

The composite index of industrial activity in Alabama, prepared by the Bureau of Business Research of the University of Alabama, dropped from 14.5 per cent above calculated normal in June, 1937, to 28.1 per cent below in February, 1938. March recorded a slight improvement in a number of lines with the result that the composite index for March advanced approximately three points but remained 25 per cent below calculated normal. The position of the cyclical index during the past three months was consistently the lowest since November, 1935.

Of the individual industries included in the composite, the cyclical position of coal, electricity and pig iron was likewise the lowest since November, 1935, and steel was the lowest since January, 1936. Cotton consumption fell below all months since September, 1934, but coke production was in a more favorable position than in most recent years except 1937. Each of these major industries in the state with the exception of coal, however, was in a relatively more favorable position than was the same industry in the nation as a whole. This is particularly true of the iron and steel industry. Activity in the iron and steel industries in the state fluctuated around 30 to 35 per cent below calculated normal during recent months, whereas the nation-wide indices were 50 to 60 per cent below calculated normal.

The above statements make allowances for long-time trend and seasonal variation. However, the actual production during each of the recent months was consistently below that in the like months of last year and with minor exceptions was below the corresponding months of 1936. In each of the major industries the total for the first quarter of the current year was consistently below the corresponding totals for each of the two preceding years. The percentage losses from 1937 varied from 20.4 per cent in electricity consumption to 40 per cent in cotton textile. It should be

remembered, however, that cotton textile activity has remained relatively higher during the depression years than other lines of activity. Steel production was off 36.9 per cent and pig iron was down 27.2 per cent. Coal production was 21.6 per cent less than in the preceding year. The percentage losses from 1936 were considerably less.

With minor exceptions activity during the first quarter of the current year was consistently higher than during the period from 1932 through 1935, but remained slightly under 1931 and substantially below the years immediately preceding 1931. Electric energy consumption was the only major line of activity that remained above the five-year average 1926–1930. The amount of coal produced was slightly more than half as large as in the average period. Steel produced was 28.2 per cent less and pig iron 35.4 per cent. The number of bales of cotton consumed during the recent quarter was only 6.2 per cent below that of the like period from 1926 to 1930.

The Tennessee Coal, Iron and Railroad Company has begun production of tin plate in its new mill at Fairfield, Alabama. This is an event of great significance to the iron and steel industry of the South since it indicates very definitely that Southern steel will be used in products more directly connected with consumers' goods. In the past the Birmingham district has been engaged principally in producing heavy materials with an extremely variable demand. It seems very probable that the tin-plate mill marks the beginning of a transformation of the industry.

University of Alabama H. H. CHAPMAN

GEORGIA

In spite of the fact that state tax collections for the first nine months of this fiscal year are ahead of those for a similar period last year by $6,000,000 ($31,000,000 as against $25,000,000), funds are not sufficient for budgeted expenditures and the various departments accordingly are being held to 74 per cent of their appropriations. All agencies receiving funds from special sources are limited in their expenditures to receipts from their respective sources. It is officially predicted, however, that this situation will be corrected as soon as all the newly enacted taxes begin to bear fruit.

By the middle of May, 28 counties had taken advantage of the local option on liquor sales provided by the recent special session of the legislature. An immediate effect has been to swell state revenues by more than $500,000 and to permit the payment of teachers' salaries, which had been considerably in arrears. The state derives its liquor revenue from license taxes of $1,000 on manufacturers and wholesalers, and $100 on retailers, as well as gallonage sales taxes, all of which are imposed upon those doing business in counties voting wet. Counties and municipalities are required to levy taxes which shall aggregate not less than $1,000 on manufacturers and $500 and $250 on wholesalers and retailers respectively. The increased revenues in wet counties will help to offset the loss occasioned by the homestead and personal property tax exemptions now in effect.

Some of the findings of the W.P.A. "Survey of County and Municipal Fiscal Affairs in Georgia" directed by L. B. Raisty of the University of Georgia were recently given wide publicity in a radio interview over W.S.B. and in the press. Among other things it was pointed out that annual revenues of counties in the state vary widely, from $17,000 in Towns County to $6,700,000 in Fulton. Annual revenues of 5 counties fall below $25,000 and of 91 below $100,000. Dr. Raisty criticized the excessive number of counties, saying that consolidations would unquestionably effect material saving without any sacrifice in governmental efficiency.

Total costs of public welfare in Georgia have risen steadily throughout the spring, reaching $2,341,081 in April, an increase of $300,000 over March. Of this amount W.P.A. expenditures accounted for $1,480,000, while general relief, C.C.C. payments, distribution of surplus commodities, and public assistance administered under the Social Security Act accounted for the balance. The public assistance program in the state seems now to have become fairly stable, the federal allotments for the months of March, April and May being fixed at $218,846. Total disbursements during these months average about $370,000. Discovery of the presence of near relatives of county board members on the old age pension rolls in one county in the state resulted in intervention by the state Public Welfare Department. Benefit payments were temporarily suspended while the rolls were checked and purged of ineligible

persons and a state supervisor was placed in charge pending reconstitution of the county board. A statewide investigation which followed revealed a similar situation in several additional counties where corrective action was immediately taken.

Emory University J. EDWARD HEDGES

KENTUCKY

The amount of important legislation enacted by the regular and special sessions of the legislature was comparatively small and limited mostly to the budget and to amendments to strengthen the administrative provisions of certain acts passed at the 1936 regular session. The powers and duties of the Department of Revenue were increased and clarified, and the Unemployment Compensation Act was practically rewritten. A retirement system for teachers in the public schools of the state was established, to become effective July 1, 1940.

A comprehensive Alcoholic Beverage Control Law was enacted. The Department of Revenue was charged with the administration of the act.

Assistance to counties in the solution of their financial difficulties, especially those brought about by highway indebtedness, was provided by a county aid bill. The act undertakes to provide an optional plan of centralized sinking fund similar to that in operation in West Virginia. It also makes available from the office of the Department of Revenue technical assistance in making plans to meet debt schedules or rearranging schedules so that they may be met, with justice both to debtor and creditor.

A second special session met in May to consider a single bill embodying the administration's welfare program. The bill is the result of the study of a special committee and carries the approval of eminent state and national leaders in the welfare field.

University of Kentucky RODMAN SULLIVAN

LOUISIANA

The Southwestern Social Science Association met in Oklahoma City, April 15 and 16. The following men from the Louisiana State University School of Commerce took part on the program: Doctors T. N. Farris, Daniel Borth, Karl D. Reyer, M. G. Dakin

and J. B. Trant. Dean Trant closed his term as President of the Association with an address "The Social Sciences." Dr. R. J. Saville, Professor of Agricultural Economics, was also on the program.

May 6 and 7, the Louisiana Academy of Sciences met at Monroe, Louisiana and several Louisiana colleges were represented on the Social Science section of that meeting; Dr. M. L. Riley, Southeast Louisiana College; George H. Seferovich and S. A. Caldwell, Louisiana State University; Alvin Good, Louisiana State Normal College; and Miss Florence Sytz, Tulane University.

Louisiana State University S. A. CALDWELL

MISSISSIPPI

First quarter employment figures for Mississippi showed a notable tendency to resist the general downward trend. An index of the number of employed persons rose 0.3 per cent in January, 2.1 per cent in February, and 1.6 per cent in March. The most important three-month increases were in road contracting (23.2 per cent) and apparel manufacturing (53.9 per cent). These figures are taken from the unweighted totals of the number of employees shown on monthly tax reports submitted to the Mississippi Unemployment Compensation Commission by an identical list of firms employing approximately 85,000 persons.

The legislature adjourned after making appropriations of $35,484,644.06 for the 1938–40 biennium. This is an increase of $6,080,307.91 over the total appropriations of $29,404,336.15 for the biennial period ending June 30 of this year. The appropriations for all educational institutions were increased $2,597,710. For institutions of higher learning the increase was $413,610 (from $1,688,654.88 to $2,102,264.88). Other outstanding increases were $1,544,490.50 for repairs and permanent improvements, $1,214,250 for bond retirements, and $1,111,111 for old age assistance.

To finance the increased appropriations, the state is relying chiefly upon an anticipated cash balance of $5,060,982 to be on hand July 1.

Governor White has announced that a special session of the legislature will be called about June 20 to consider his proposal to

exempt all homes from state, county and municipal ad valorem taxes. The governor has stated that the exemption would not affect local taxes levied for bond retirement purposes and that exemptions probably would be placed at a maximum of $2500 on assessed values.

Two probable sources of funds with which to replace the lost revenue have been indicated: (1) The governor announces that the new budget under-estimates the revenues of the next biennium by approximately $4,500,000; (2) several millions of dollars which have been allocated to bond retirements during the next biennium may be released by refunding operations.

On April 1 the Unemployment Compensation Commission began taking claims for weekly benefit checks. During the first month and a half the commission has received 14,640 claims, of which 11,632 have been approved. A total of 7,935 checks, in the aggregate amount of $51,784.10, have been issued.

Jackson, Mississippi M. K. Horne, Jr.

NORTH CAROLINA

The Civilian Conservation Corps recently celebrated its fifth anniversary. Since the inauguration of the CCC program in April, 1933, approximately 43,000 young men have been enrolled in North Carolina. During the years 1933–1936 young men between the ages of 18 and 26 from relief families were accepted. The July and October enrollments in 1937 took place after the passage of the present CCC law, which extends the life of the corps for 3 years and broadens the eligibility requirements to include young men "unemployed and in need of employment," (all applicants being between the ages 17–23 inclusive). During these two enrollments, approximately 80 per cent of the young men accepted were under 20 years of age. It is evident that there is an unusual demand for places in the corps by youths who have just finished school and who turn to CCC as an immediate opportunity for work experience and further training. The total expenditure authorization in North Carolina during the fiscal year 1937 was $10,744,320.-54, of which over $2,000,000 was allotted to dependents by the enrollees.

During the five-year period an average of 56 camps have operated

in the state. Some of the outstanding work accomplished is the construction of approximately 3,000 miles of minor roads and truck trails, 300,000 acres of forest stand improvement, and 130,000 man-days spent in fighting forest fires. In the soil erosion control program 40,120 check dams have been constructed, approximately 10,000,000 square yards of seed, sod and tree planting has been accomplished in gully control, and 127 lookout houses and towers have been constructed.

Duke University J. M. Keech

SOUTH CAROLINA

The general assembly of South Carolina adjourned on May 7 after having been in session since January 11. Some of the more important legislation enacted follows:

1. Repeal of the five mill property tax for state purposes. South Carolina now has no tax levied on property for the support of state government.

2. A law regulating the hours of labor in mercantile establishments, eating places, and for truck drivers. For employees in mercantile establishments and eating places the maximum number of hours is fixed at 56 per week. In minor manufacturing plants the limit is 48 hours per week and for truck drivers the limit is 8 consecutive hours of driving within a 24-hour period.

3. The addition of 660 miles of county highways to the state highway system.

There was considerable agitation for change in the liquor law, the deversion of a portion of the gasoline tax revenue for purposes other than highways, and for the institution of biennial sessions of the general assembly, but no act was passed relative to these questions.

For the first time since 1933 the monthly tax collections of the South Carolina Tax Commission showed a decline in April. There was a decrease in the taxes collected on gasoline, tobacco products and soft drinks. The figures reflect the business recession in South Carolina.

Under the citizens organization known as the South Carolina Federation of Agriculture, Commerce and Industries there has recently been formed a Council for Research. The purpose of the

council is to make and publish brief studies relating to economic and social questions in the state. The president of the federation is Mr. A. L. M. Wiggins, of Hartsville, and the chairman of the council is Professor S. M. Derrick, of the University of South Carolina. The membership of the council embraces professors of economics, sociology and chemistry in the colleges and universities of the state and representatives of major economic interests.

At a meeting of the council in April it was decided to make the following studies for publication later in the year: Statistical Handbook of South Carolina; Population Trends; New Industries in South Carolina; Trends in Agriculture; Balance of Trade; Dependency and Relief; Cost of Government.

The South Carolina Unemployment Compensation Commission will begin paying benefits to unemployed workers on January 1, 1939. There are approximately 215,000 covered workers in the state. By July 1 the trust fund from which benefits will be paid will amount to between $6,250,000 and $6,500,000.

University of South Carolina S. M. DERRICK

TENNESSEE

Thirteen state parks have been developed and are now in use in Tennessee, containing 50,000 acres. Planned or under construction are 3 additional parks, one of which is for Negroes.

The State Administrator of the WPA has announced that 230 miles of highways, exclusive of farm-to-market roadways, will be completed in the late summer costing approximately $650,000. It is also stated that WPA has spent in Tennessee $2,098,774 on more than 300 county road projects since 1936.

A considerable interest in slum clearance has developed among some of the larger cities of the state. Knoxville has sought federal funds and it now appears that a project for this city of 300 single houses for white people and 200 dwelling units in ten-family apartments for Negroes may become a reality.

In a recent month the Tennessee Employment Service placed 44 per cent more applicants in private employment than for the corresponding month a year ago.

Applicants for social security account numbers received by the Social Security Board from Tennessee business and commercial

workers at the end of February totaled 593,382. Applicants in some other Southern states were as follows: Alabama, 509,805; Florida, 530,612; Mississippi, 269,771; Georgia, 651,019; South Carolina, 392,045.

Payments on claims for lump sums under the federal old age insurance plan of the Social Security Act in Tennessee reached an average of $28.01 in March while the national average rose to $38.29 in the same month.

Aircraft, Inc. has announced the location of an airplane factory at Sky Harbor airport, purchased by the company.

After negotiations with the National Power and Light Company, an offer by Knoxville and the Tennessee Valley Authority of $7,900,000 for electric properties of Tennessee Public Service Company has been accepted. This offer excludes the Watervillle-Kingsport transmission line and the transportation system of Knoxville and vicinity. The offer, due to changed conditions, is almost $2,000,000 more than that made in 1934 when negotiations were first conducted.

Tennessee Valley Authority T. L. HOWARD

VIRGINIA

The general assembly of Virginia at its recent session adopted the largest appropriation bill in the history of the commonwealth. For state activities supported out of general revenues, appropriations for the biennium which begins July 1, 1938, amount to $50,689,940. As compared with the preceding biennium this is an increase in unconditional appropriations of $8,621,266, and in unconditional and conditional appropriations combined of $10,784,766.

Supplementing the substantial increases made for current expenses of various state agencies, appropriations were made for additions and betterments at state institutions of higher education of $2,514,735; for sanatoria for the tuberculous of $572,600; for state hospitals for mental defectives of $883,800; and for penal and reform institutions of $673,135.

The appropriation for road purposes was increased for the biennium from $39,000,000, in round numbers, to $50,000,000, payable

entirely from motor vehicle license and motor vehicle fuel taxes, with the addition of an annual federal aid grant of $2,300,000.

The general assembly passed a Public Assistance Act which provides for aid to the aged, to dependent children, and to the blind. This law provides for local administration with state supervision. The burden of such relief is to be borne by the state and its subdivisions in the proportion of 62½ per cent by the state and 37½ per cent by the localities.

Virginia's hours law for women and children was amended to provide for a 9 hour day and a 48 hour week, with certain exceptions. The old law limited hours to 10 a day and 60 a week. The new law gives Virginia the best law of its kind in the South.

The workmen's compensation law was also amended to provide more liberal payments. The maximum weekly payment for total disability will increase from $14 to $16. Payments may be made for a maximum of 500 weeks, but the maximum total payments may not exceed $6,000 as compared with $5,400 at present. Payments to dependents in cases of fatalities will increase from a maximum of $14 to $16 a week for a maximum of 300 weeks. Thus the maximum total payments in fatal cases will be raised from $4,200 to $4,800.

The general assembly also passed a joint resolution creating a Labor Relations Commission. This commission is to make a thorough investigation of the relations between employers and employees with the end in view of preserving "amicable relations between employers and employees, ascertaining possible causes of industrial unrest and labor disputes, and determining practical methods for preventing and settling disputes between employers and employees." The commission is required to make a report containing its findings and recommendations, together with suggested bills carrying out its recommendations, to the Governor and the general assembly.

University of Virginia GEORGE T. STARNES

PERSONNEL NOTES

Charles P. Anson, Instructor of Economics, University of North Carolina, has resigned to accept an appointment as Associate Professor of Economics at Roanoke College, Salem, Virginia.

M. A. Bacon, formerly Instructor in Economics at Vanderbilt University, has resigned to do research in the field of taxation at the University of Michigan next year.

Lee Bidgood, Dean of the School of Commerce and Business Administration, University of Alabama, has been appointed Chairman of the Advisory Council of the Alabama State Employment Service. This is an agency set up in compliance with the terms of the Wagner-Peyser Act, which established the United States and state employment services.

M. R. Brewster, Associate Professor of Economics at the Georgia School of Technology, will supervise a real property inventory of Savannah, Georgia, a W.P.A. project, during the summer.

C. F. Dunham has been promoted to the position of Head of the Department of Accountancy at the University of Mississippi.

Joseph A. Frank has been granted a teaching fellowship in economics at Vanderbilt University for next year.

William H. Glasson recently resigned as Dean of the Graduate School of Duke University. Professor Glasson remains Chairman of the Department of Economics and Business Administration. He will be on leave of absence during the coming academic year.

Percy L. Guyton, who has been at Duke University for the past two years on leave of absence from Mississippi State College, has resigned from that institution. He has been awarded the Duke-Brookings Fellowship for 1938–39 and will continue his graduate studies at the Brookings Institution.

Earl J. Hamilton, Professor of Economics at Duke University, will return to active teaching duty this fall. He has been on leave of absence in France for research upon the system of John Law.

M. S. Heath, Associate Professor of Economics in the University

of North Carolina, has received a grant-in-aid from the Social Science Research Council to complete his study in transportation.

A. M. Hillhouse will return to teaching at Davidson College this fall. He takes the place of Professor J. P. Williams who leaves Davidson.

R. J. M. Hobbs, Professor of Business Law in the Department of Economics and Commerce, University of North Carolina, has been granted a leave of absence for the fall quarter of 1938 on the Kenan Foundation to complete a manuscript dealing with government regulation of business.

Calvin B. Hoover, Professor of Economics in Duke University, has been appointed Dean of the Graduate School of Arts and Sciences at Duke University.

J. R. Huber, Assistant Professor of Economics at Emory University, has been granted a fellowship by the C.R.B. Educational Foundation established by the Commission for Relief in Belgium. He will spend the summer in Belgium and neighboring countries studying the effects of bilateral exchange clearing on international trade.

E. A. Kincaid, Professor of Economics in the University of Virginia, has been granted a leave of absence for the coming academic year. He will devote full time to work with the Federal Reserve Bank in Richmond.

R. D. McIntyre, Professor of Marketing and Salesmanship at the University of Kentucky, will return in September to his duties after a year at New York University.

W. Potter McLendon is Instructor in Economics at the University of Tampa in place of R. S. Berrey, resigned.

Roy Purvis, Instructor in Accounting, University of Florida, resigned to accept a position as auditor for the Florida State Board of Control. His place was filled by J. W. Fly.

John Sterling Neblett, Instructor in Business Law and Insurance at John B. Stetson University, has resigned.

James C. Nelson, Associate Professor of Marketing, University of Tennessee, has received a grant-in-aid from the Social Science Research Council for a study of motor carrier regulation in the state of Tennessee.

B. U. Ratchford, Professor of Economics at Duke University, has received a grant-in-aid from the Social Science Research Council for a study of the debts of the American states. He has been

granted a year's leave of absence to become Acting Professor at the University of Virginia during the absence of Professor E. A. Kincaid.

Fritz L. Redlich, Professor of Economics, Mercer University, has received a grant-in-aid from the Social Science Research Council for a study of American business leaders.

M. O. Ross, Associate Professor of Finance at the University of Tennessee, has received a grant-in-aid from the Social Science Council for a study of state regulation and control of commercial banking in Tennessee.

Tipton R. Snavely, Chairman of the Department of Economics and Commerce, University of Virginia, has been made Chairman of the Virginia Milk Commission.

Rodman Sullivan of the University of Kentucky will be on leave for the year 1938–39 for graduate study.

Charles T. Taylor of the University of Arizona and Duke University has been appointed to the economics staff at the Georgia State College for Women.

George Tomlin, Instructor in the Department of Economics at the University of South Carolina, will continue his graduate work at the University of Pennsylvania this summer.

Marcus Whitman, Professor of Economics in the University of Alabama, has been acting as an economic consultant to the Southeastern Governors' Freight Rate Conference. In this capacity he was called upon for testimony at an Interstate Commerce Commission hearing before Commissioner Lee in Birmingham in the case of *State of Alabama, et al. v. the New York Central Railroad Company, et al.*, and he also testified as economic consultant in November, 1937, at the National Bituminous Coal Commission hearing in Birmingham, held pursuant to Section 4a of the Bituminous Coal Act to determine the relation between intra- and interstate commerce in coal.

Melford A. Wilson, graduate of the University of South Carolina School of Commerce and formerly connected with the National Reemployment Service, has been selected as statistician for the South Carolina Unemployment Compensation Commission.

Erich W. Zimmermann, Kenan Professor of Economics, University of North Carolina, has received a grant-in-aid from the Social Science Research Council for a revision of his book, *World Resources and Industries*.

BOOKS RECEIVED

The Organization of the English Customs System, 1696–1786. By Elizabeth E. Hoon. New York: Appleton-Century Company, 1938, pp. ix, 322. $4.00.

The Financial Policies and Practices of Automobile Finance Companies. By Harvey W. Huegy and Arthur H. Winakor. Urbana: University of Illinois Bulletin Vol. XXXV, February 1, 1938. Pp. 56.

How to Keep Accounts and Prepare Statements. By Earl A. Saliers. New York: Ronald Press Co., 1938. Pp. xii, 481. $4.00.

Balance of Payments, 1936. By League of Nations. New York: Columbia University Press, 1938. Pp. 236. $1.50.

Reciprocal Trade: A Current Bibliography. Third Edition. Washington: United States Tariff Commission, 1937. Pp. 411.

The Historical Records of North Carolina: Volume I, The County Records, Alamance through Columbus. Prepared by the Historical Records Survey of the Works Progress Administration. Edited by Charles Christopher Crittenden and Dan Lacy. With a Preface by Luther H. Evans. Raleigh: North Carolina Historical Commission, 1938. Pp. 491.

Lament for Economics. By Barbara Wootton. New York: Farrar & Rinehart. Pp. 322. $2.00.

Rural Youth on Relief. By Bruce L. Melvin. Washington: Works Progress Administration, 1937. Pp. xvii, 212.

An Economic History of Modern Britain, Vol. III: Machines and National Rivalries, 1887–1914, with an Epilogue, 1914–1929. By J. H. Clapham. New York: Macmillan Co., 1938. Pp. xiv, 577. $7.00.

Government and Business. Third Edition. By Charles C. Rohlfing and Others. Chicago: Foundation Press, 1938. Pp. xviii, 780. $4.00.

Labor and Social Organization. By David Aloysius McCabe and Richard Allen Lester. Boston: Little, Brown & Co., 1938. Pp. viii, 374. $1.20.

The Call Feature in Municipal Bonds. By the Committee on Municipal Debt Administration. Chicago: Municipal Finance Officers' Association, 1938. Pp. 118.

Solutions to National Problems. By John Donaldson. Boston: Meador Publishing Co., 1938. Pp. 86. $1.00.

The Adventures of Dr. Economist. By Roy Del Ray. Detroit: Mark Hirschfeld, 1938. Pp. 156. $1.00.

An Introduction to Money. By W. A. L. Coulborn. New York: Longmans, Green & Co., 1938. Pp. xvi, 278. $2.20.

The Industrial Worker. By T. N. Whitehead. Cambridge: Harvard University Press, 1938. Vol. I, pp. xiv, 265; Vol. II, pp. viii, 180. $5.00.

State and Federal Grants-In-Aid. By Henry J. Bittermann. New York: Mentzer, Bush & Co., 1938. Pp. x, 550. $4.00.

When Capital Goes on Strike: How to Speed up Sending. By Arthur Dahlberg. New York: Harper & Brothers, 1938. Pp. xxii, 218. $2.50.

The South: Its Economic-Geographic Development. By Almon E. Parkins. New York: John Wiley & Sons, 1938. Pp. ix, 528, $4.00.

Growth of American Manufacturing Areas. By Glenn E. McLaughlin. Pittsburgh: Bureau of Business Research, University of Pittsburgh, 1938. Pp. xxvii, 358. $3.00.

Modern Money. By Myra Curtis and Hugh Townshend. New York: Harcourt, Brace & Co., 1938. Pp. ix, 291. $2.50.

The Preparation of Reports. Revised Edition. By Ray Palmer Baker and Almonte C. Howell. New York: Ronald Press Co., 1938. Pp. xv, 578. $4.00.

Investments and Investment Policy. By Floyd F. Burtchett. New York: Longmans, Green & Co., 1938. Pp. x, 821. $4.00.

On the Economic Theory of Socialism. By Oskar Lange and Fred M. Taylor. Edited by Benjamin E. Lippincott. Minneapolis: University of Minnesota Press, 1938. Pp. vii, 143. $1.75.

Current Economic Delusions and their Probable Future Effects. By E. C. Harwood. Cambridge, Mass.: American Institute for Economic Research, 1938. Pp. 112. $1.00.

What People Want From Business. By J. David Houser. New York: McGraw-Hill Book Co., 1938. Pp. xi, 250. $2.50.

Social Control of Industry. By George Matthews Modlin and Archibald MacDonald McIsaac. Boston: Little, Brown & Company, 1938. Pp. x, 499. $1.40.

The Right To Work. By Nels Anderson. New York: Modern Age Books, 1938. Pp. 152. 50¢.

The Taxation System and Industrial Development. By George A. Steiner. Urbana: University of Illinois Bulletin, March 18, 1938. Pp. 46.

Consumers' Bookshelf: A Bibliography of Publications on Commodity Buying and Other Consumer Problems. By U. S. Department of Agriculture and U. S. Department of Labor. Washington: Superintendent of Documents, 1938. Paper covers. Pp. 100. 15¢.

The Theory of Prices. Vol. I. By Arthur W. Marget. New York: Prentice-Hall, 1938. Pp. xxv, 624. $6.00.

Labor Problems from Both Sides. By Malcolm Keir. New York: Ronald Press Co., 1938. Pp. xviii, 381. $3.50.

Practical Problems in Economics. By Broadus Mitchell and Louise Pearson Mitchell. New York: Henry Holt & Co., 1938. Pp. vi, 596. $2.50.

Technical Progress and Unemployment. By Emil Lederer. Geneva: International Labour Office, 1938. Pp. xi, 267. $1.50.

Statistical Methods Applied to Economics and Business. Revised Edition. By Frederick Cecil Mills. New York: Henry Holt & Co., 1938. Pp. xix, 746. $3.75.